

PLUS CD-ROM Master retouching techniques with our video tutorials!

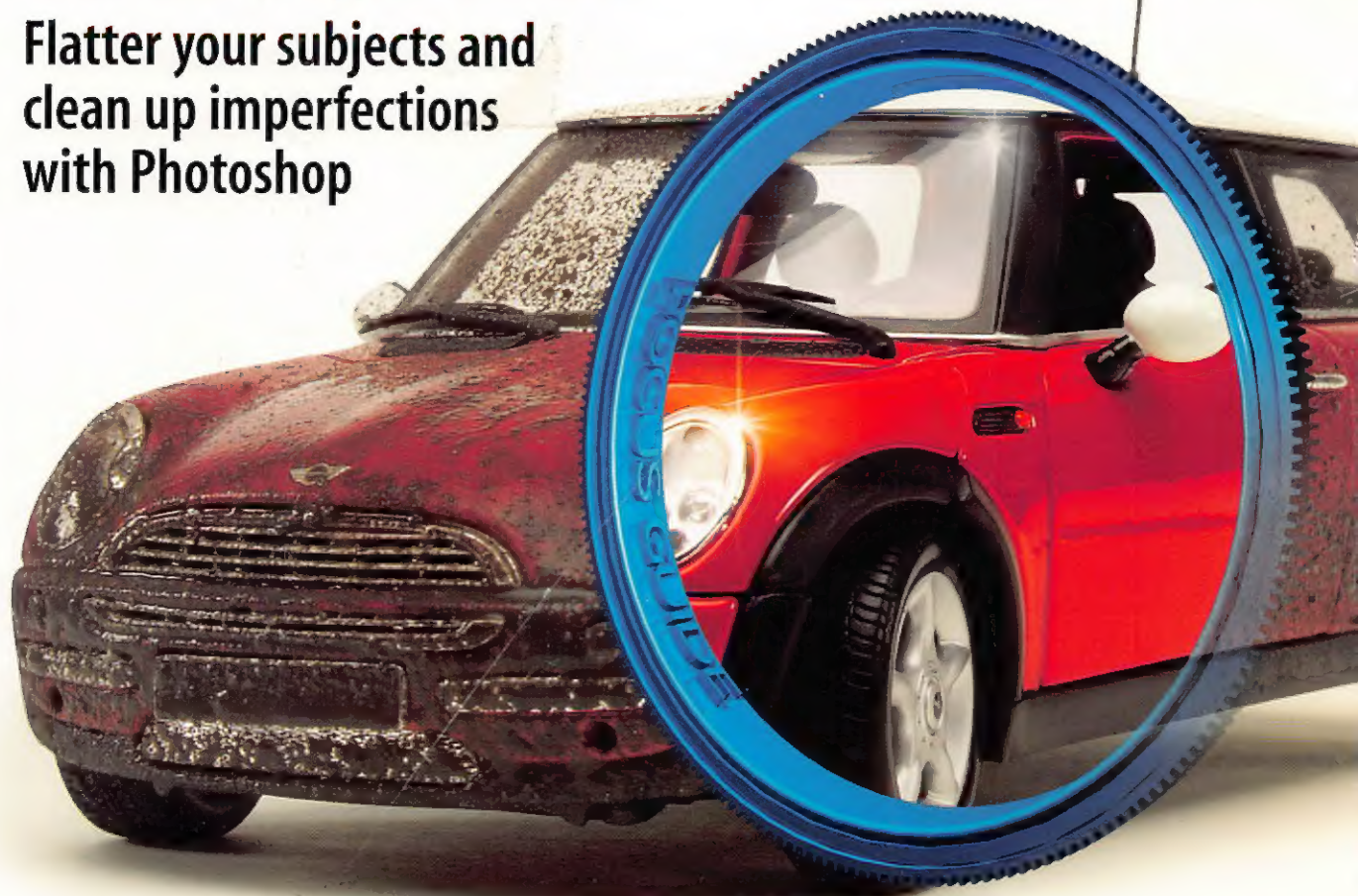
Adobe Photoshop

Enhancing Photos

Flatter your subjects and
clean up imperfections
with Photoshop



FocusGuide
From the makers of **Computer Arts**



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



Clean up your photographs...

Find out why Photoshop is the photographer's friend, and the cover model's *best* friend!

This issue of the Adobe Photoshop Focus Guide is the ultimate companion for keen photographers. Whether you're a digital camera user, or sticking with your trusty 35mm, this Guide contains all the tricks and techniques you need to produce more powerful images.

Why do the models on the front of glossy magazines always look so perfect? Well, of course, they don't look too shabby to begin with, but any shortcomings they *do* have can be dealt with by Photoshop. Pimples, cellulite and blemishes can all be taken care of, so even if a cover model has been partying and eating burgers all week, you'd never know it. In this Focus Guide we'll expose the techniques used by Photoshop artists to flatter their subjects, giving everyone the know-how to create their own glossy cover shot.

The same skills used for retouching model shots can also be put towards a rather more worthy cause – restoring damaged and faded photographs. If the only memory you have of a loved one is a yellowing Polaroid, we'll show you how to restore it to its former glory – even if there are chunks missing! We'll also demonstrate how to salvage snaps with exposure problems and incorrect colour values – fixing these will soon become second nature!

As always, our bonus CD-ROM is stuffed full of helpful tutorial files, images, plug-ins and training videos to get you off to the perfect start. Even if you've never used the world's best image-editor before, you'll pick it up in no time! Happy snapping!...





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Finding your way

Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

Adobe Photoshop is the perfect package for retouching and restoring images – so much so, that it's been difficult to cram all the necessary information into this Focus Guide. That's why you'll find the special icons that occupy the margins so very useful.

As you leaf through the pages, you'll find a range of attractive symbols, each of which denotes an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're

dealing with – for a guide to icon categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative and thoroughly tried-and-tested.



On your CD-ROM

Some of the software that we refer to may be included on your bonus CD. Every now and then we remind you of this by flagging up the disc icon and listing what's on it. Handy, eh?



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful hint about using Photoshop's extensive range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



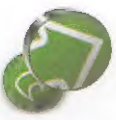
Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead we refer you to other useful resources, such as websites and specialist books for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to carry out these tasks with a few deft key-presses, saving you lots of time and effort.

CONTENTS

1

The Digital Darkroom

INTRODUCING THE DIGITAL DARKROOM 10

More and more photographers are starting to discover the benefits of the digital age. But although the process of taking a picture hasn't changed much, the darkroom certainly has

ADJUSTING IMAGES	12
CREATING ADJUSTMENT LAYERS	13
ATTACK OF THE CLONES	14
THE HEALING BRUSH	15
PATCH IT UP	16
DODGE, BURN AND SPONGE	17
BLUR, SHARPEN AND SMUDGE	18
MANAGING BRUSHES	19

2

Tone and Contrast

WORKING WITH TONE AND CONTRAST 20

Whether they've been downloaded from a digital camera or scanned, there are some routine adjustments that must be made in order to get the best out of most images

UNDERSTANDING LEVELS	22
WORKING WITH LEVELS	23
GETTING AROUND CURVES	24
BLENDING MODES	25
BALANCING COLOURS	26
HUE AND SATURATION	27
BRIGHTNESS AND CONTRAST	28
FINISHING OFF	29

3

Exposure Problems

COMPENSATING FOR POOR EXPOSURE 30

Whether a digital camera has metered its subject poorly or your holiday snaps have been badly processed, the amount of light available can dramatically affect an image

ADOBE GAMMA	32
MONITOR CALIBRATION	33
CORRECTING DARK IMAGES	34
LET THERE BE LIGHT	35
RESCUING OVEREXPOSED IMAGES	36
TURN DOWN THE LIGHTS	37
FAKING LIGHT WITH FILTERS	38
PRECISION TOOLS	39



Colour Correction

CORRECTING COLOURS IN PHOTOSHOP

40

A key aspect of retouching your photos is colour correction. We help you balance your tones to bring out the best colours without you seeing red...

UNDERSTANDING COLOUR MODELS	42
COMBINING RGB AND CMYK	43
IDENTIFYING COLOUR CASTS	44
QUICK CORRECTIONS	45
BALANCING COLOURS	46
SELECTIVE COLOUR CORRECTION	47
REPLACING COLOURS	48
EXTREME COLOUR CORRECTION	49



Image Textures

CLEANING UP IMAGE TEXTURES

50

A key aspect to consider when retouching images is the removal of any dust or scratches that were present on the original photo. This lays the foundation for a cleaner image

REMOVING DUST AND SCRATCHES	52
REMOVING MOULD	53
REDUCING PRINT TEXTURES	54
ADDING TEXTURE TO IMAGES	55



Enhancing Images

ENHANCING YOUR IMAGES CREATIVELY

56

There's more to getting the best out of your images than simply retouching and restoring them. Interesting detail can be brought out of an image with more creative enhancements

COLOUR TO BLACK AND WHITE	58
CALCULATED CONVERSIONS	59
APPLYING BLURRING TO IMAGES	60
SHARPENING IMAGES	61
UNDERSTANDING FOCUS	62
SIMULATING FOCAL LENGTH	63
ADDING A CREATIVE EDGE	64
ACTION REPLAY	65



Fixing Images

FIXING AND RESTORING IMAGES

66

Restoring old photos to their former glory is more about recreation than retouching. You can get rid of tears and scratches and replace entire sections of an image lost over time

INITIAL FIXES	68
REMOVING SCRATCHES	69
CLONE OR HEAL?	70
USING THE CLONE AND HEAL TOOLS	71
FADE TO GREY	72
REMOVING STAINS	73
HAND-TINTING PHOTOGRAPHS	74
TONING WITH VARIATIONS	75



Repairing Extreme Damage

REBUILDING DAMAGED PHOTOGRAPHS

76

If you're lucky you'll have access to an image's negatives. If you're unlucky you'll just have the photo. But if you're really unlucky you'll only have a few fragments to piece together...

RECREATING BACKGROUNDS	78
CREATING TEXTURED BACKGROUNDS	79
REBUILDING A PORTRAIT	80
REPAIRING LIGHT DAMAGE	81
MASTERING MASKS	82
MERGING WITH MASKS	83



Restoration

RESTORING AN ANTIQUE PHOTOGRAPH

84

With the groundwork behind us we can now put the theory to practice as we run through the entire process necessary for us to restore a typically-damaged antique picture

ANALYSE THE IMAGE	86
LOSE THE COLOUR	87
MIND THE GAPS	88
TOUCHING THINGS UP	89
MIRACLE MASKS	90
FIXING THE BACKGROUND	91
FINISHING TOUCHES	92
BALANCING LIGHT	93



Perfect Portraits

CREATING THE PERFECT PORTRAIT

94

After looking at restoration techniques in such detail, returning to more common retouching methods becomes a walk in the park – so let's have a go at a modern-day makeover...

THE PROCESS AS A WHOLE	96
REMOVING BLEMISHES	97

EYES AND TEETH	98
FLUTTER THOSE LASHES	99
SMOOTHING THE SKIN	100
APPLYING MAKE-UP	101
INSTANT COLLAGEN	102
EARS AND NOSE	103



Body Sculpting

USING THE PEN AND PATHS TO ALTER THE BODY 104

There's more to retouching than merely giving somebody a facial. The rest of the body may also need a little work, and we can make subtle changes to areas such as the hair and nails

THE PEN TOOL AND PATHS	106
SCULPTING THE BODY	107
SMOOTHING OUT SKIN CREASES	108
BALANCING BODY TONES	109
CHANGING HAIR COLOUR	110
MORE USES FOR PATHS	111



A Case Study

RETOUCHING FROM SCRATCH – A CASE STUDY 112

Now you've got a good idea of the techniques involved, we can make use of these skills as we walk through the process of cleaning up a typical studio shot to make it ready for print

GETTING STARTED	114
SETTING THE BALANCE	115
SMOOTHING THE SKIN	116
LOSING THE SHADOWS	117
THE EYES HAVE IT	118
COMPLETING THE FACE	119
BALANCING THE SKIN	120
THE FINAL RESULT	121



Essential Information

CD PAGES AND RESOURCES

122

Your essential guide to the software on your bonus CD. Plus our handy glossary and details of what you can look forward to in next month's packed issue

CD PAGES	122
SUBSCRIPTIONS	125
NEXT MONTH	126
GLOSSARY	127
INDEX	129

Chapter 1

INTRODUCING THE DIGITAL DARKROOM

In this chapter...

- ☐ *Make adjustments via the Image menu*
- ☐ *Master the Clone tool*
- ☐ *Heal and Patch images*
- ☐ *Use traditional darkroom tools such as Dodge, Burn and Sponge*
- ☐ *Dodge, Burn and Sponge*
- ☐ *Manage your digital brushes*

More and more photographers are starting to discover the benefits of the digital age. But although the process of taking a picture hasn't changed much, the darkroom certainly has

Photography has long been one of our most popular pastimes. Enjoyed by everyone from the casual holiday snapper to the dedicated professional, the art has essentially changed little since the days of the Box Brownie. Technology may have improved but the act of capturing light before processing the film has remained basically the same.

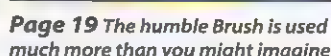
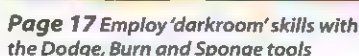
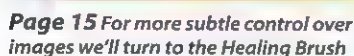
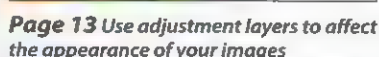
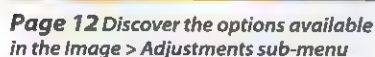
Little wonder then that digital photography is creating such a stir. The sheer convenience of not having to worry about wasted shots and the immediacy of the results are attracting the attentions of even the most reluctant traditionalist. And although the process of capturing an

image remains virtually identical to traditional methods, the process of getting the most from your work has changed radically as it transfers from the darkroom to the desktop.

Cue Photoshop

Before the digital approach was even a consideration, Photoshop was around to provide photographers with a means of retouching their work. Images could be scanned and converted into digital format for use within the computer environment, where retouching and restoration become possible.

It is now taken for granted that a camera can be plugged into a



Know your tools

image content into something that might be used as a cover shot. But we'll start by looking at some of the basic tools you'll be using when retouching or restoring images. We'll be using Photoshop 7.0 as the base application throughout, but most of the processes can be applied to previous versions or to the new Photoshop CS title.

Once you've reached the end of this Focus Guide you'll have a much better idea of how to make the most suitable adjustments to your images using a more educated approach, whether those images come directly from a digital camera or scanned from hard copies.

Adjusting images

For most routine work you'll be turning to the Adjustments category under the Image menu

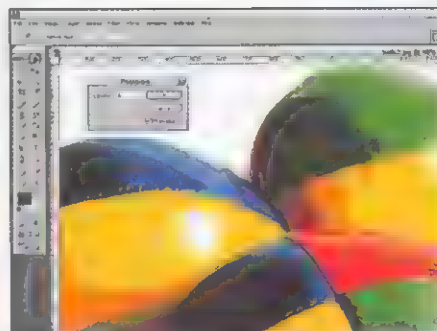


Keyboard Shortcuts

Many of the image adjustments will become key staples as you work on your digital assets. Accessing them through the Image > Adjustments menu is okay, but using keyboard shortcuts will help your creative flow. Shortcuts are listed next to the key features in Photoshop's menus. Try to commit these to memory so you access them more efficiently.

There's no doubt that Photoshop is one of the most flexible applications but the roots of the software, as the name implies, lie firmly in photography. Many of the tools found in the toolbar are essential to the adjustment of your work and we'll be looking into these over the next few pages.

The most powerful collection of features is to be found within the Image menu. The Adjustments sub-menu contains a wide range of tools and features for changing the pixel contents of your image. Any



Not all the Image > Adjustment features are for retouching. The effects available to the bottom of the sub-menu provide interesting options

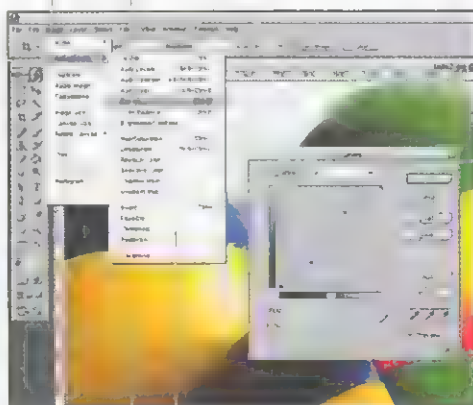
photographer worth their salt should be familiar with their functions and operations intimately.

THE IMAGE AND ADJUSTMENTS MENUS

The Image menu provides access to various options relating to an image's properties, including its mode, size and histogram.

The Adjustments sub-menu is somewhat tucked away under the main Image menu, but includes many essential tools and features.

With the Preview option checked within a chosen tools dialogue screen you'll see the change being applied to the main image in real time, giving some indication of the results.



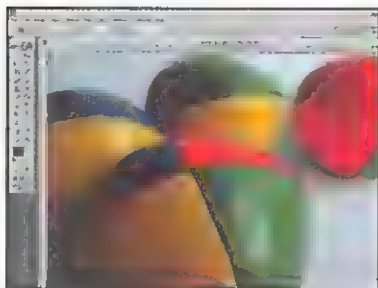
Most options grouped under Adjustments provide powerful controls over your pixel content, including levels and curves and the ability to manipulate colour content.

Most of the adjustment tools generate a dialogue screen, giving you the chance to manually tweak the effect before it is applied to the image.

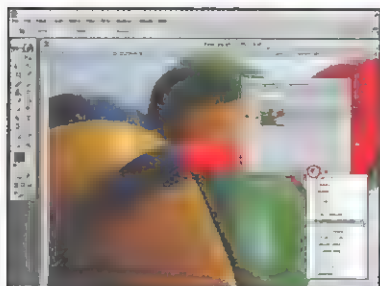
The additional options found towards the foot of the menu can provide some dramatic results, such as posterising or inverting your image content.

Creating adjustment layers

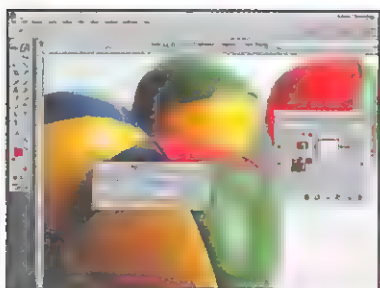
Adjustment layers provide similar options to image adjustments without destroying pixels



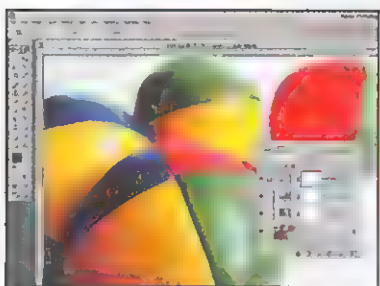
Open the balls.jpg file from the bonus CD and you'll see how the image suffers from poor natural lighting during the original shoot. This has resulted in muted colours and blue tinges, which are particularly noticeable over what should be a white background. We could use the Image > Adjustment options here but some experimentation is necessary and this process could become repetitive.



Instead turn to the Layers palette, from where we can make use of 'adjustment layers'. These place any changes you make on their own layers, leaving the background image layer in its original form. At the base of the Layers palette are a range of shortcut icons – click the Adjustment Layer icon, denoted by a black and white circle, before choosing the Brightness/Contrast option from the fly-out.



A dialogue box will now appear, from where you can make manual adjustments to the options – we've settled with a brightness setting of 30 and contrast of 10 for example – before clicking OK. Once you've approved the changes the adjustment layer is visible in the Layers palette and can be further modified by simply double-clicking the layer's thumbnail icon.



You can create as many adjustment layers as you see fit, experimenting with their settings as you create the best balance for the image. You can change the settings of any of the adjustments or even hide specific adjustment layers if you feel this may improve your image. Once you're happy with the results you can leave them in place or flatten the image to make the changes permanent.



Balls.jpg

You'll need to take the balls.jpg file from the CD to continue with these steps. The image was taken with a Fuji F700 with default settings and will benefit from a little retouching to get the best from the image.



Unexpected adjustments

Adjustment layers certainly have their advantages, although you must understand that they will affect ALL layers beneath them. If you want them to be restricted to a specific layer you'll need to clip them together via the Layer menu first.

Attack of the clones

One of the most powerful retouching tools in Photoshop's arsenal is the Clone tool



Aligning samples

Keeping the Aligned option checked when using the Clone Stamp tool is essential if you want to successfully remove elements from a larger image. Unchecking this option means that each time you paint over your image the sample point will return to the original sample, regardless of the position of your cursor.

The standard Photoshop toolbar contains, as you might expect, further features specifically designed for retouching images. One of the longest-standing elements, having been available from the very first version of the software, is the Clone Stamp tool.

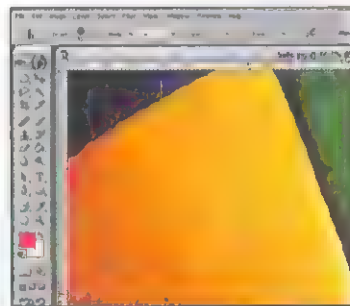
This tool is used to duplicate 'good' regions of an image, which can then be painted over offending sections. With the tool selected, the related options bar adapts to provide related settings you may want to specify, such as the stamp size,

mode and whether the point being duplicated is aligned with the original sample. First you click on a 'good' region of your canvas while holding the [Alt] key – this region becomes your sample area. Once this has been defined you can continue to paint over the layer, duplicating the sample area. With the Aligned option checked in the tools options palette this sample area will change as your brush moves, making it an excellent choice for painting out anything from simple blemishes to a whole character.

THE PATTERN STAMP

This related tool offers you new creative possibilities

Grouped together with the Clone Stamp tool is the newer Pattern Stamp tool. This operates in a similar way to the original, but there is no need to specify a sample point because a pattern is used instead. You can choose from the default patterns available via the drop-down list in the related options bar or create your own. Uses for this tool vary, but you may find it useful to create a generic pattern or if you wanted to clone multiple regions against a similar background, such as removing the players from a football pitch. It can also be used for more creative and experimental purposes.



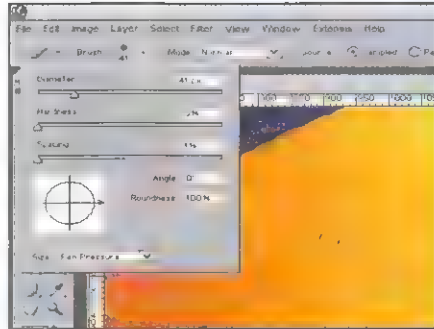
With the regular Clone Stamp tool selected you can keep track of your sample point with the crosshairs

The Healing Brush

For jobs where the Clone Stamp tool is too obvious you can turn to the Healing Brush

The Clone Stamp is undoubtedly a powerful tool, although the unforgiving nature of its duplication methods can, on occasion, lead to unsubtle results that may not blend too well with more detailed textures. In such a situation it's best to turn instead to the Healing Brush tool.

This operates in a very similar manner to its relation, although instead of sampling pixel content it analyses the texture and light content of a sampled region before applying this to the area to be treated. The results work well in the right setting;



Access the brush options through the downward arrow to the right of the brush options to determine the hardness of the brush settings

a typical use for Healing Brush, as its name suggests, is removing blemishes from skin.



Hard or soft?

Whereas the Clone Stamp tool will generally be more suited to a softer brush to ease the blending of the replaced area, the Healing Brush will work best with a harder-edged brush to ensure consistency in the conversion.

HEALING BRUSH OPTIONS

- ☐ **THE BRUSH** size used by the tool is one of the main controls available through the tools options bar. Change the settings and preview the brush size by moving the cursor over the canvas.
- ☐ **TO THE** right of the brush options is a small downward arrow – access this to make more specific changes to the way your brush behaves.
- ☐ **BLENDING MODES** can also be applied from the options bar for more subtle control over the way the adjustment is applied.
- ☐ **THE SOURCE** that's used by the tool can be determined by choosing the Sampled or Pattern options. If Pattern is selected the corresponding drop-down menu will become active to provide related choices.
- ☐ **ALIGNING YOUR** sample point works as it does for the Clone Stamp. It's best left checked for more consistent results with the Healing Brush.



Handling the pressure

If you're using a graphics tablet as an input device you can configure the tool to recognise pressure levels, giving you more precise control over the application of the effect – pressing harder with the pen will affect a larger area of the image, for example.

Patch it up

Familiarise yourself with the Healing Brush and the related Patch tool over the following steps



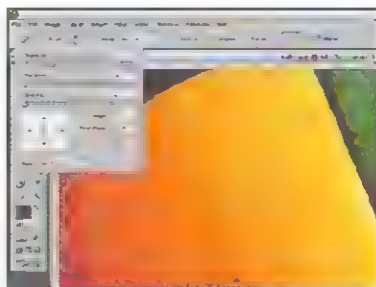
Balls.jpg

We've already made use of the balls.jpg file in a previous walkthrough. You need not have completed the steps to continue, but the results will be more impressive if the previous adjustments are in place.

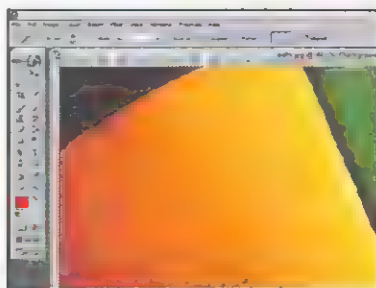


Source or destination?

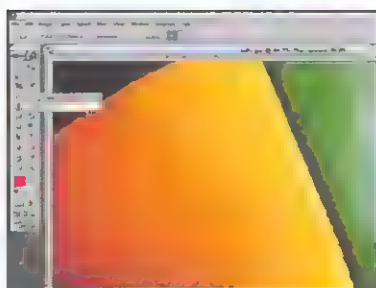
The process shown here explains how a region can be patched by dragging the offending region to a good point. You can do things the other way round by selecting Destination within the Options palette if you prefer.



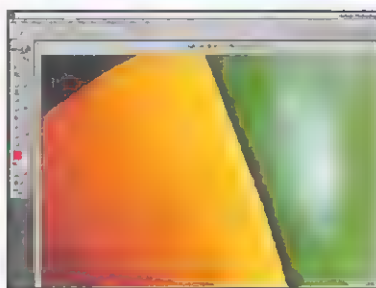
1 Return to the balls.jpg file and zoom in to the yellow section of the foremost ball to see some dints and blemishes apparent in the texture. We could use the Clone Stamp tool to remove these, but the results may be a little harsh. Instead select the Healing Brush and specify a brush size to cover a typical mark – around 50 pixels. Make sure the source point is set to Sample within the Options bar.



2 Hold down [Alt] and click on a clear area to define the sample and simply paint over an offending mark to see if it instantly disappears. Try the same again, but this time take a sample from within the green region of the ball. You'll notice that the tool will paint the green initially before reverting to the original colour, but adapting the texture to match the source sample.



3 This technique is fine for small amounts of work as you can easily retouch individual marks as you see them. However, for larger areas you can save time by making use of the related Patch tool, found nested under the Healing Brush. Select this and drag a selection around a number of blemishes within the image.



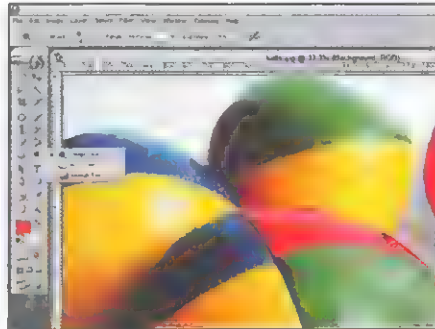
4 Then simply drag the selection so that it covers a region you consider to be 'clean' and the marks will instantly vanish, leaving behind a smooth texture with the wrinkles, dents and blemishes removed. Zoom back out of the image to see the effect – if done correctly, the adjustment should now be almost impossible to detect.

Dodge, Burn and Sponge

Transfer your skills from the darkroom to the desktop with these familiar features

As Photoshop was originally intended to enhance the output of the darkroom, it's only natural that many processes involved in the more traditional aspect of photography have made their way into the digital environment.

The Dodge, Burn and Sponge tools are classic examples of the physical methods you might employ to retouch an image under the enlarger, but thanks to the flexibility of the digital equivalent you no longer need worry about going too far with such effects. Best of all,



If other tools are grouped within a tool set you'll see a small arrow head. Click and hold the foremost tool to access the other options

you don't have to lock yourself away in a darkened room for hours on end to get the process right.



Tonal range

As the Dodge and Burn tools are so closely related you'll find the Options bar contains the same settings for both. From here you can adjust the range of tones that the tool will act on, giving you a level of control that just isn't possible in the traditional darkroom.

PHOTOSHOP'S TONING TOOLS

- THE DODGE TOOL** is used to lighten specific areas of an image and is based on a traditional photographer's technique. This method involved holding light back on certain areas, so as to further expose darker areas and bring out detail that might otherwise be lost.
- THE BURN TOOL** is closely related to the Dodge tool, only this time it offers the opposite function. It works by darkening regions that might otherwise be overexposed within context of the entire image. Changing the related options will determine how the effect works with both the Dodge and Burn tools.
- THE SPONGE TOOL** in contrast subtly changes the colour saturation of an affected area. This is easier to understand in greyscale, as the tool increases or decreases the contrast by moving the grey levels to or from the middle tones.



Sponge behaviours

The Sponge tool can be set to either enhance or reduce the amount of colour by choosing either the Saturate or Desaturate modes from within the related Options bar. Adjusting the Flow allows the tool to work in a more obvious or subtle manner.

Blur, Sharpen and Smudge

Photoshop provides additional options that would be unthinkable in a real darkroom

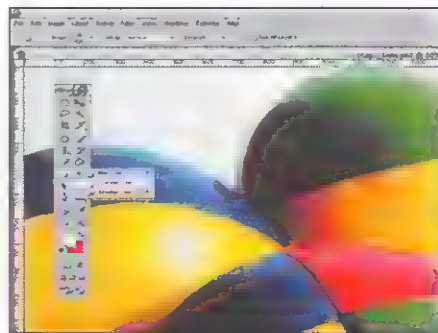


Quick access

As the sharpening tools are grouped together within the toolbox, only the foremost tool becomes selected when you press the keyboard shortcut [R], but if you hold the [Shift] key down at the same time you'll find you can cycle through the tools to select the one you need.

Although the Blur, Sharpen and Smudge tools complement the retouching options we've already considered, they add subtlety in a way that simply cannot be replicated in the traditional darkroom.

Their functions should be fairly apparent from their names, but the descriptions below should help you understand more about how they work. As with any of the tools you work with in Photoshop, don't forget to keep an eye on the Options palette for methods of configuring the tool. As with the use of the primary tools



Using Photoshop's focusing tools you can make specific adjustments to an image for more subtle retouching jobs

the options are quite straightforward, but experimentation will help you to understand how to best use them.



Dynamic finger painting

You can check the box in the Options bar to activate Finger Painting mode, but you can also access this mode spontaneously while using the regular Smudge tool. Just hold down the [Alt] or [Option] to activate the effect temporarily.

PHOTOSHOP'S FOCUSING TOOLS

- THE BLUR TOOL**, you won't be surprised to learn, blurs the selected region. This effect is achieved by softening hard edges or areas in an image to reduce detail. The options available for the tool include the usual Mode and Strength options, along with the ability to apply the effect to all layers simultaneously.
- THE SHARPEN TOOL** also does pretty much what you would expect it to. This focuses soft edges to increase clarity or focus and provides a more localised method of achieving such results without making use of the related filters, which affect the entire layer.
- THE SMUDGE TOOL** allows a little creativity to be introduced. It simulates the action of dragging a finger through wet paint by picking up paint from where the stroke begins and pushing it in the direction in which the cursor is dragged. Put a tick next to the Finger Painting option for more experimental results.

Managing brushes

It's one of the fundamental tools – but it can be all too easy to overlook the humble brush

As a method of retouching, the brush is one of the most frequently used tools in Photoshop. Whether you use the Brush tool in its most simple form to add pixel content, or use one of the more specialised tools, from the humble Smudge function through to the more capable Clone Stamp, you will indirectly be using a brush.

The brush principle is used throughout Photoshop as the core method of application, and any configuration of a tool will invariably involve adjusting the brush size and

any characteristics it may inherit. In its most basic form, the brush is a simple but hugely effective tool for which there is a massive range of styles available. Choosing a mode to paint in will determine the Blending Mode that is applied when using the tool, while the Opacity and Flow options specify the amount of paint to be applied and its density. You'll find such basic controls within the Options palette for many of Photoshop's tools, although some tools will have additional features to complement their primary purpose.



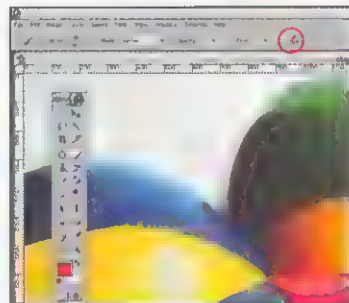
Blending Modes

The Mode in which a brush operates dictates how a tool affects the original image pixels. You may find it helpful to imagine the base colour being processed through the selected mode to create the resulting blend.

AIRBRUSH? WHAT AIRBRUSH?

It was one of Photoshop's original tools – but where is it now?

In the earliest versions of Photoshop the airbrush was given its own location within the toolbar, but as the software evolved it quickly became apparent that the feature was little more than a variation on the regular brush. It's now possible to apply airbrush effects and properties to many of Photoshop's tools via the icon contained within the Options palette. You can achieve much better results if you have access to a graphics tablet as an input device. As well as allowing more natural movements, this handy device also gives you the chance to control the virtual paint flow, resulting in a much more realistic finish.



The Airbrush option is tucked away as an icon within the Options palette and makes itself available to various tools

WORKING WITH TONE AND CONTRAST

Whether they've been downloaded from a digital camera or scanned, there are some routine adjustments that must be made in order to get the best out of most images

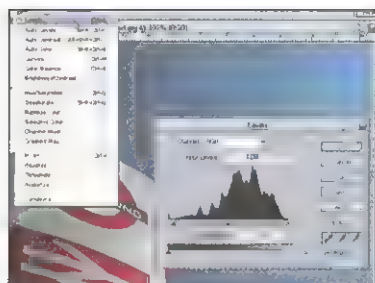
Despite the advances in digital technology and the amazing quality now possible with digital cameras, there is still a weak link in the process. A camera, whether digital or not, can only capture an image at its best if it has been set up with the most appropriate settings for each situation. Even the best photographer can fail to consider every factor that could influence a shot, and with the rise in popularity of digital photography there is a growing number of enthusiasts who may not have a clue about such technical settings. They may prefer to leave their camera permanently on its auto settings, which will

provide satisfactory results on the whole but certainly cannot guarantee the best results every time.

Routine retouching

Fortunately, Photoshop is the perfect tool for rescuing such images and many of the most basic retouching techniques are carried out simply to correct fundamental errors. Whether a digital camera's white balance is incorrectly set or an image has been poorly metered, or even if a scan hasn't quite resulted in the best quality, there are more than enough tools within Photoshop to get things back on track.

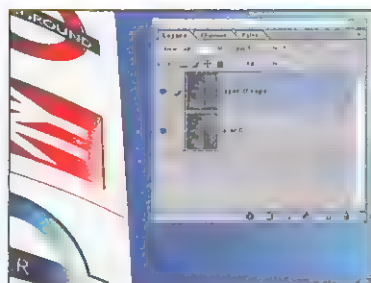
In fact, some of the adjustment



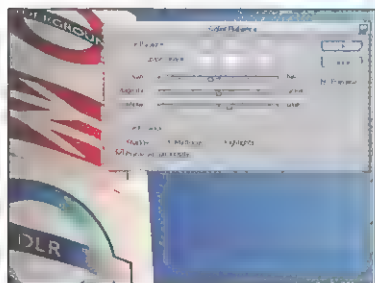
Page 22 See how Levels can drastically improve poorly-balanced images



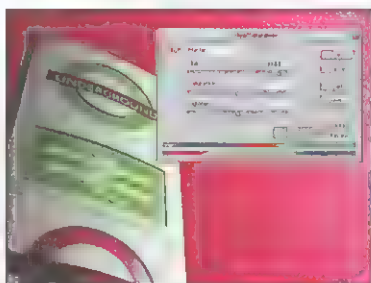
Page 24 If you think Levels are good, wait until you check out Curves



Page 25 Not strictly a retouching tool, but blending modes can offer a quick fix



Page 26 Balancing colour will bring out some of the detail that may be lacking



Page 27 Experiment with abstract effects by adjusting the Hue levels



Page 29 Finally, compare the final results with the original image

features we will look at in this chapter can bring an image back to life and even display detail which may not have originally been noticed. Balancing the levels of an image, for example, can have dramatic results, and even if Photoshop is left to process this for you through the auto levels option, you'll discover the kind of results that will have you trawling through your old photo albums in search of material to work on.

Mastering the basics

While the following pages will introduce some powerful adjustment features, it should not be forgotten

that we are still looking at some of the more routine and essential Photoshop techniques. Along with the basic tools we looked at in the previous chapter, these should become burned into your consciousness, as you'll be applying some or all of them to many of your images as you develop your work.

We'll be looking at the primary tools available through the Image > Adjustments menu, but don't forget that many of these features can be applied as adjustment layers (see page 13), so when you're working on your own images you can make use of this less destructive feature as you experiment with various settings.

Understanding levels

Some dramatic results can be achieved simply by correcting the tonal range of your image



Level options

For more control over the way the levels are calculated choose the Options button from the Levels dialogue box. From here you can set up the tool's default algorithms and target colours.

One of the most common adjustments needed for an image is the balance of its levels. These are accessed through the Image > Adjustments sub-menu, from where you can manually make corrections through the regular Levels option or allow Photoshop to process what it considers to be the best settings by choosing the Auto Levels feature. The latter is a single-click affair and you'll see the changes instantly as Photoshop balances the images tonal range. However, the former presents you

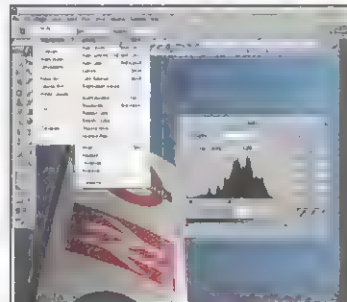
with a dialogue box from where you can decide, through the visual histogram, on the full scale of the effect you want to achieve.

Below the histogram you'll see small arrowheads that determine, from left to right, the Shadow, Midtones and Highlight intensity levels. Moving the extreme markers to match the histogram should get the best results, but you may choose to adjust individual colour channels by selecting them from the drop-down menu available at the head of the dialogue box.

USING THE EYEDROPPER TOOL

Using the Eyedropper to define regions may be an easier option

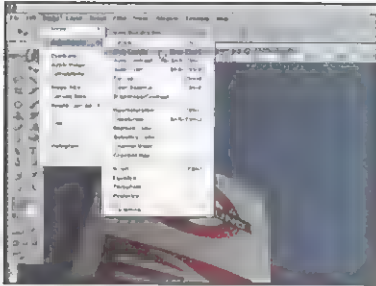
If manual adjustment to the image's histogram doesn't work for you, then you might want to use the Eyedropper tools instead. The three available to the dialogue box can be used to specify the dark, midtones and light points of an image. Simply select the appropriate tool and click within the image on a corresponding point. If the results aren't quite good enough then clicking another region will provide an alternative you may prefer. Alternatively, you might choose to double-click a chosen Eyedropper tool directly to prompt the Color Picker, from where you can decide on a colour that may provide such points.



The Eyedroppers to the bottom-right of the Levels dialogue box are another way of defining tonal range

Working with levels

Seeing how levels affect an image will help you to understand the principles involved

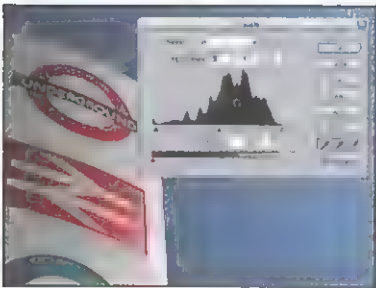


Open the **transport.jpg** file from the bonus CD. The image is nicely composed, although the white areas appear a little too grey. First, let's try the automated approach to fixing the levels. Go to the **Image > Adjustments** options and choose **Auto Levels**. This is a single-click effect and you'll see the changes instantly. The results are okay, but now undo the action and we'll try things manually.

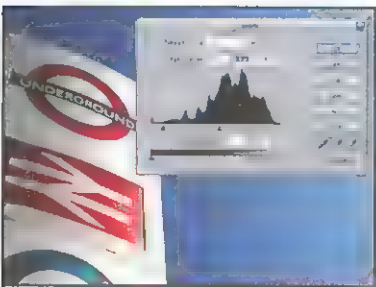


Transport.jpg

Use the file **transport.jpg** to follow the steps here. The image, captured through a Kodak DX6440, suffers from a dark cast that can be easily rectified by adjusting the image's layers.



From the same menu choose the **Levels** option and you'll be presented with a dialogue box. It will open by default, with the composite RGB channel selected and visible at the head of the box. Below the histogram are three arrowheads which determine the dark, mid and highlights of the image. Drag the extreme sliders so they match up with those determined by the histogram.

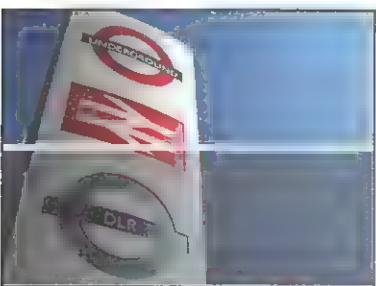


You'll be able to see the changes straight away, so you can experiment with the settings to achieve the best results. Notice how moving the **Highlight** slider to the left makes the image brighter and how the **Midtones** arrow automatically adjusts to keep its relative position between the dark and light points. Play around with the middle arrow for further adjustment.



Reset your levels

As you experiment with levels you may want to revert to the original settings. Rather than cancelling the adjustment and starting afresh, hold down the [Alt] key on the PC or the [Option] key on the Mac and the function of the **Cancel** button changes to **Reset**, allowing the image to revert while keeping the dialogue open.



The difference between the original image and the version with its levels adjusted can be clearly seen here. The lower half is the unadjusted image while the upper half has greatly improved colour balance, with the white areas being much brighter and the natural blue gradient of the sky being far more apparent.

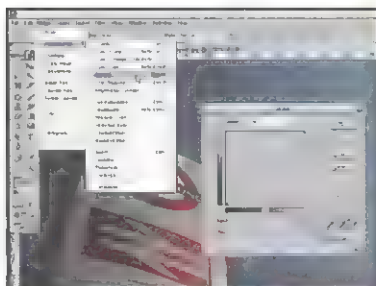
Getting around curves

For more control over tonal range than is possible with levels, check out some curves

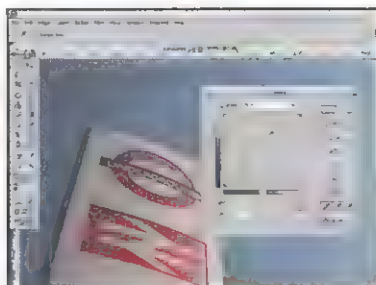


Transport.jpg

If you used the transport.jpg file during the previous walkthrough, revert to the original file to continue with the following steps.



Revert transport.jpg to its original state and let's take a look at another method of improving the tonal range. From the Image > Adjustments sub-menu choose the Curves option and you'll be presented with a different dialogue box. Instead of a histogram you are presented with a graph that displays the original input values along the horizontal axis and the new output levels along the vertical.

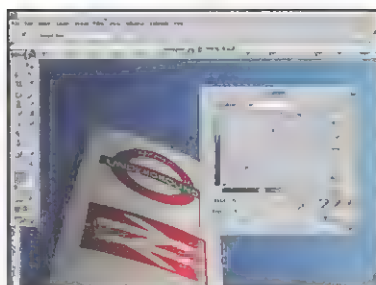


Click and drag about two-thirds of the way along the diagonal line, making the curve slightly convex, and you'll see how the image instantly starts to brighten. You'll also notice, when you release the mouse button, that at the point where you dragged the curve an anchor point has been created. The action has certainly improved the image, although the colour intensity is now somewhat lacking.

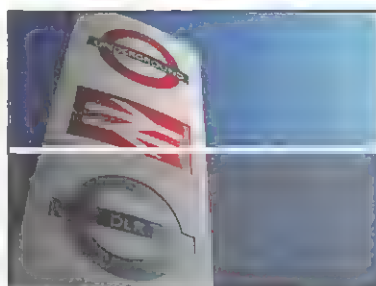


Instant access

As curves and levels become a regular adjustment, you'll save time by becoming familiar with their keyboard shortcuts for instant access to their dialogue boxes. Curves can be prompted by [Control] + [M] (Windows) or [Command] + [M] (Mac) while levels are available through [Control] + [L] (Windows) or [Command] + [L] (Mac).



To counter this, click and drag the curve downwards at around a third of the way along its length to make a shallow S shape, and you'll see how this brings back the original intensity while keeping the image bright. This is because the anchor points lock your preferences in place. The advantage of using curves is that up to 256 such anchor points can be used for incredibly complex adjustments.



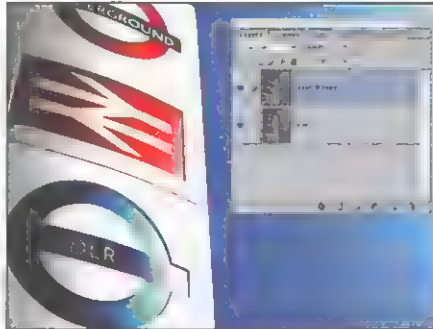
You can see clearly here how the upper half of the image, which has had its curves adjusted, enjoys much higher definition in colour, contrast and brightness when compared to the original image at the bottom. Levels and curves offer very similar results, although the latter method has a little more flexibility due to the increased number of adjustment points that can be created.

Blending Modes

Many tools have various modes available in their Options bars, but how do they work?

The drop-down list at the head of the Layers palette provides various 'blending modes' which are also available when configuring many of Photoshop's tools. To better appreciate how they work it may help to consider the relationship between layers or tools and the aspects of the image which they affect.

Your background image or layer can be considered the base colour, while the blend colour is that being applied with the current tool or, as illustrated above, layer. The result is determined by the blend specified



Using a duplicated layer to adjust the Blending Mode of an original layer is a useful technique for creating some interesting effects

over the original layer. There are too many blending modes to consider in detail, but we'll look at a few.



HSL colour model

The HSL colour model is a method of creating colour. Colours rendered through the monitor use the RGB mode which is managed by red, green and blue. HSL is determined by hue, saturation and light to achieve similar ends.

SELECTED MODES

THE DARKEN blend replaces pixels lighter than the blend colour while those darker remain unaffected. Colour Burn and Linear Burn increase the contrast or decrease the brightness to the base colour.

THE BLENDING mode group headed by the Lighten option work inversely to the previous four, providing modes to replace darker or more saturated areas of the image.

LIGHTING EFFECTS are headed by the options grouped and headed by the Overlay mode. The effect of many will be apparent from their name.

THE DIFFERENCE mode subtracts either the blend from the base or vice-versa, depending on which has the greater lightness value.

THE FINAL GROUP of modes headed by the Hue option allows you to adjust aspects of an image based mainly around the HSL colour model.



Mode availability

Certain blending modes will only work in certain colour models. All are available to RGB and CMYK modes, but if you're planning on working in Lab images you can expect to lose Colour Dodge, Colour Burn, Darken, Lighten and Exclusion modes, for example.

Balancing colours

Use Color Balance to fine-tune images once the curves and levels have been adjusted

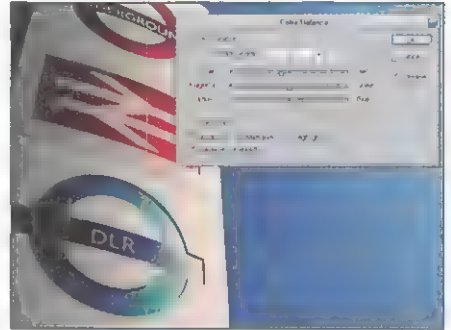


Different modes, different balance

The options available when balancing colours are dependent on the colour mode your image happens to be in. The annotation below is based on the RGB model, which we've assumed most photographers will be working in. Other modes will have slight variations, although the end results will be similar.

The adjustments made through the levels and curves options will certainly bring colour out of an image, but to make enhancements more specifically to the colour composition we need the Colour Balance feature, also found under the Image > Adjustments sub-menu.

The annotated screen shot below shows the tool in action and its main components, which are controlled through a series of sliders for the colour channels used in an image. Pay attention to the Tone Balance radio buttons at the foot of the



You can boost the colour content of an image by working on the shadows, midtones and highlights independently

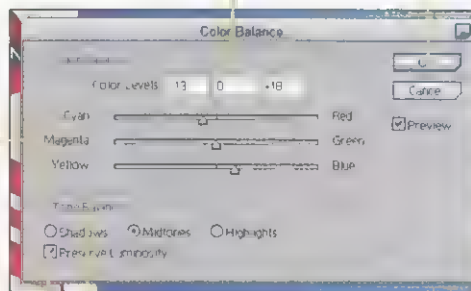
interface, as selecting these in turn allows more specific control over certain regions of your image.

COLOUR BALANCE CONTROLS

More specific adjustment is possible through the fields at the head of the interface. Entering more precise measurements is possible by typing in the required value.

The main input method for controlling colour balance is a series of sliders. Colour levels can be manually amended while the main image reflects your changes dynamically.

Keep the Preserve Luminosity option checked to prevent the light value within the image being changed when adjusting the colour to maintain tonal balance.



Once you've made your adjustments you'll need to apply the changes with the OK button. Hold down [Alt] or [Command] to make the reset option available.

You'll need the Preview option checked to see how your adjustments are affecting the image. With this selected the main display will adapt accordingly.

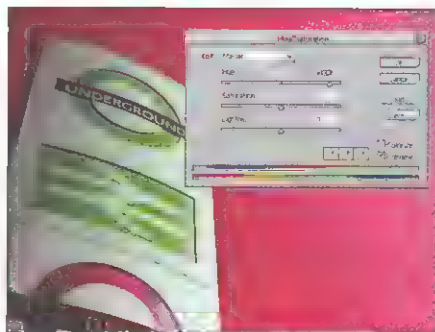
The tone balance allows you to choose whether you are adjusting the shadows, midtones or highlights. You may need to work through each to get the best results.

Hue and Saturation

Give colours a boost or apply some creative variations to original images

A common problem with many digital cameras is their inability to accurately capture the colour of a subject. Even after cleaning up our sample image using levels and curves, you can see that the colour balancing is still not quite perfect. The colours in our image are still a little muted and could do with a general boost.

Using the Hue and Saturation options in the Image > Adjustments sub-menu will certainly help. Increasing the saturation will beef up the colour content, while making



interesting effects are possible by playing with the colour of an image. In this example we've increased the hue slider for dramatic results

things a little lighter will bring out further detail and add considerable depth to our image.



Destructive editing

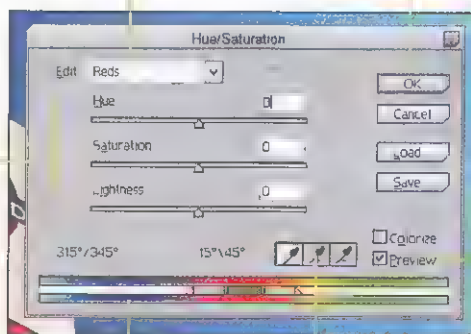
As with any of the options available through the Image > Adjustments sub-menu, the process of altering an image's hue and saturation will change pixel data, so make sure you work on a duplicate file or save your work as a new file once completed, otherwise your original image will be overwritten.

ADJUSTING HUE AND SATURATION

By default any changes will be applied to the entire colour range, although individual channels can be selected using the drop-down list at the head of the interface.

As with the Color Balance dialogue box, the primary method of control is through a series of sliders. These dictate levels for hue, saturation and lightness.

The Adjustment slider becomes available with individual colour channels and is used to modify the range of a specific colour.



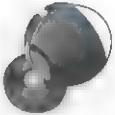
Familiar controls are available for confirming your adjustment, or you can load and save settings if you find common combinations that that for you.

The Colorize option is normally used for adding colour to greyscale images, although some interesting effects can be achieved on regular colour images.

To edit the range by choosing colours from the image, select the Eyedropper and click within the image. The + and - alternatives are used to add or remove colour.

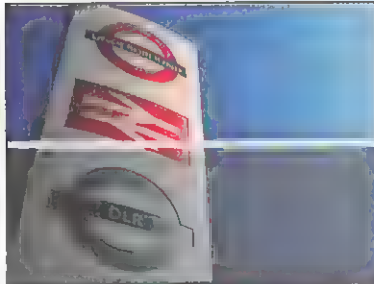
Brightness and contrast

Another option can lift colour and enhance the image contrast for added depth

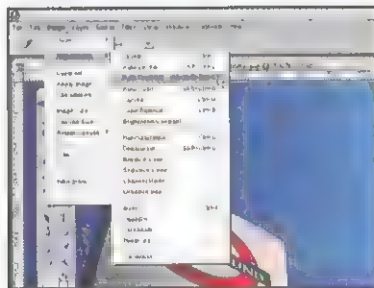


Transport2.jpg

Take the transport2.jpg file from the CD. This is a version of our original file to which we've already made all the adjustments detailed throughout this chapter.



Compare the transport2.jpg file with the original image we used at the start of this chapter. You'll already see some considerable improvement, which has been made possible through the basic techniques we've covered, such as levels, curves, colour balance and the HSL adjustment. The comparison here shows the original image at the bottom, with the revised version above.

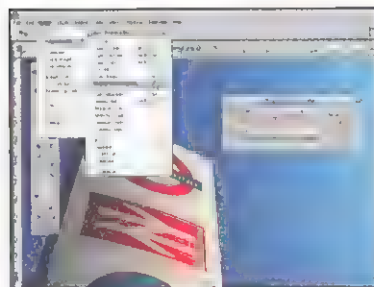


Despite the improvements, the image could still benefit from a little more contrast. Take a look at the brighter areas of the image and the trained eye will notice they could be a little whiter. Turn again to the Image > Adjustments options and this time select the Auto Contrast option. This is a one-click tool, so watch carefully to see the subtle change in the contrast.

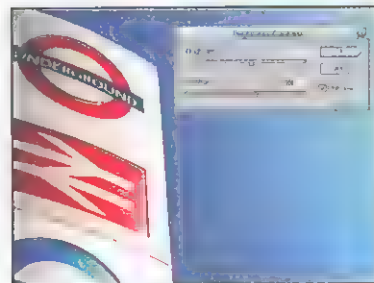


Limitations

The Brightness/Contrast command is not ideally suited to high-end image processing due to the way the feature affects every pixel within an image. We've illustrated some quick-fix benefits it might provide, but for the best results you will need to master the Levels and Curves controls.



A little more control, however, will achieve an even better result, so undo the previous action and instead turn to the Brightness/Contrast option from the same sub-menu. The options here are quite apparent to even the most novice Photoshop user, but a little experimentation with the sliders individually and together will start to show how the tool operates.



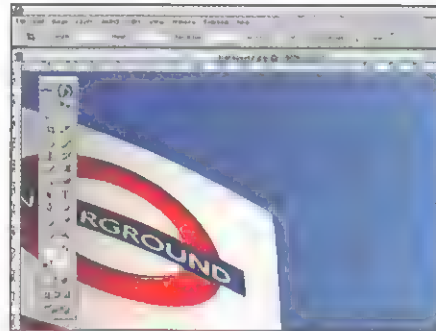
We settled at raising the brightness by 10 and the contrast by 16 to raise the white out of the image. These settings were reached by raising the levels incrementally for both parameters to ensure the increased brightness didn't wash out existing tones and that the enhanced contrast wasn't too heavy.

Finishing off

After a few last-minute tweaks we can compare our enhanced image with the original

We've made a considerable number of changes to our image as we've attempted to cover the key Image > Adjustment options. Ideally though, the process should be completed in as few steps as possible to keep as many details of the original image intact.

One of the more noticeable side-effects of our image processing is the speckling that is evident within the block colour textures such as the sky. To get round this we could make use of Filter > Noise > Despeckle or even the Dust and Scratches option



Zooming in highlights the speckling effect that can sometimes occur as a side-effect of adjusting an image



Save as...

Although the process of retouching is carried out to enhance images, it is always recommended that you save your converted images as new files. If you overwrite your original source material you won't be able to go back if you change your mind later.

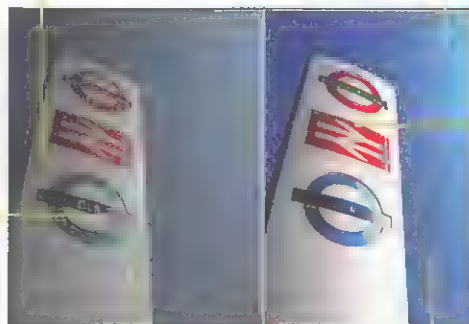
in more extreme cases. With a little tidying up such as this, the final image shown below is possible.

BEFORE AND AFTER

The original image had little definition between light and dark areas, while the contours of the sign have been enhanced in the retouched version.

Subtleties of colour were lost in the original, with the blues of the lower logo being displayed in very flat tones.

With adjustments carried out to the levels and curves more definition was possible between the brighter and darker regions of the image.



A combination of levels adjustment and colour balancing gave the background sky a much richer natural gradient.

Improving the colour balance brought out more detail found in the colour to bring the foreground subject out of the picture.

As we experienced a little speckling in the background of the image this was selected and softened with a Gaussian Blur.

Chapter 3

COMPENSATING FOR POOR EXPOSURE

Whether a digital camera has metered its subject poorly or your holiday snaps have been badly processed, the amount of light available can dramatically affect an image

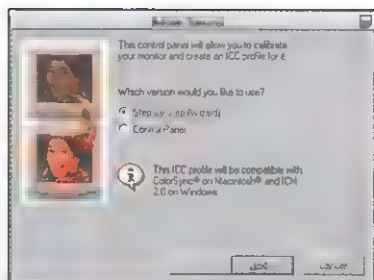
When an image is captured the process is fundamentally the same, whether it's by traditional film or a digital camera's CCD – what is actually being recorded is the level of light reflecting from an object. It is for this reason that a light reading is taken, so that the camera can compensate for variations in the light available.

Professional photographers will make use of a light meter and make manual adjustments to their camera, but for the vast majority of snappers the 'auto' setting and a point-and-click approach tends to suffice. This generally produces acceptable images, as the standard of integrated

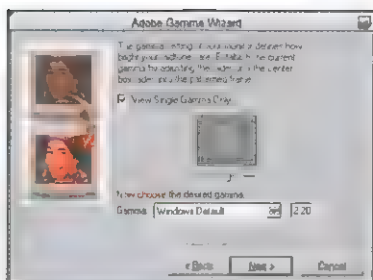
light meters in automatic cameras is of a relatively high level. However, on occasions things don't quite go to plan and an image is produced that is either too dark or too bright.

Understanding exposure

It is this balance between available and captured light that determines the level of your shot's exposure. If an image is too dark then it is considered underexposed to available light, while if it's too bright it is overexposed. And as the majority of photography is about capturing a moment in time this can lead to some frustration if that perfect shot is spoiled by exposure



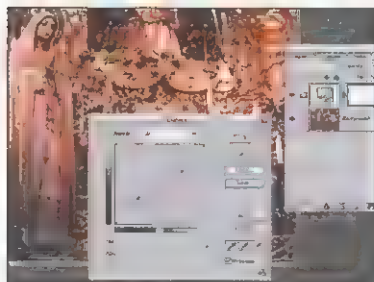
Page 32 Understand the essentials behind colour calibration



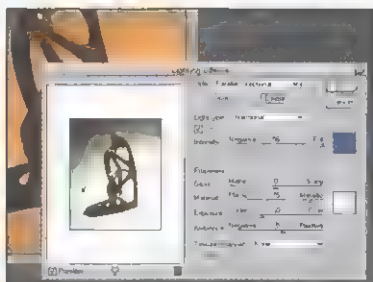
Page 33 Walk through the colour calibration of your monitor



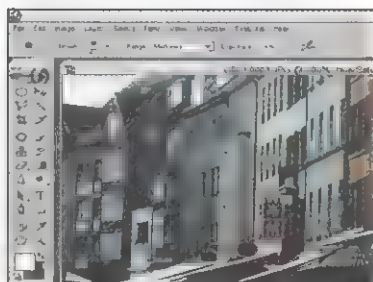
Page 34 Identify and rectify some common underexposure problems



Page 36 Overexposed images appear too bright, but we can fix those too



Page 38 If all else fails you'll just have to get creative by adding some lighting



Page 39 For more precise exposure adjustment use the Dodge and Burn tools

problems. Fortunately, Photoshop provides a number of methods for correcting these problems. In all but the most extreme cases, exposure levels can be readily corrected with just a little understanding of the tools available.

The following pages address a few of the most common problems but, as each image is unique, you may find some variation and common sense should be used when applying the techniques to your own images.

Adobe Gamma tool

Before we start though, we'll take a quick look at the Adobe Gamma correction tool. This is a separate

application that installs alongside Photoshop and is intended to calibrate your monitor so you are seeing the actual colour that your image relies on. There's little point making fine adjustments to images which are suffering from exposure problems if your monitor is too dark or bright to begin with.

We'll also take a look at adding some lighting effects to your images, whether to complement existing light settings or to counterbalance inherent problems. Once you've mastered the basics you'll be ready to put your new skills into practice, as you bring life back into images you had previously written off.

Adobe Gamma

Don't get frustrated by your monitor when the Adobe Gamma tool can help you to see red...

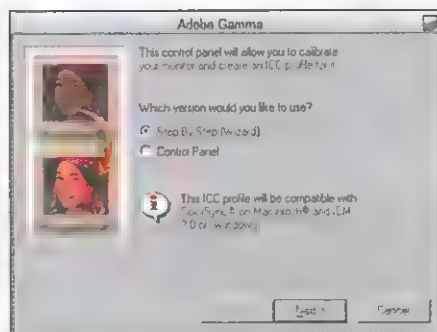


Finding your calibration tools

Windows users will need to go to the Start Menu > Settings > Control Panels > Adobe Gamma. Mac users will need to employ their OS options with the OS X tool found under Apple > System Preferences > Display and choose the Colour tab, while OS 9 users will find their equivalent by going to Apple > Control Panels > Monitors and then clicking the Colour button.

The Adobe Gamma tool makes short work of the potentially confusing business of monitor calibration. Without correct adjustment your monitor may not display the correct brightness or colour settings, and an image could look very different when viewed on another monitor or in print.

Mac users will need to rely on the built-in calibration tools for their operating system, but the general principles are the same for both platforms. See the side bar (left) for information on where to find your



When the Adobe Gamma tool is launched you're given the option of walking through the step-by-step Wizard or making manual adjustments

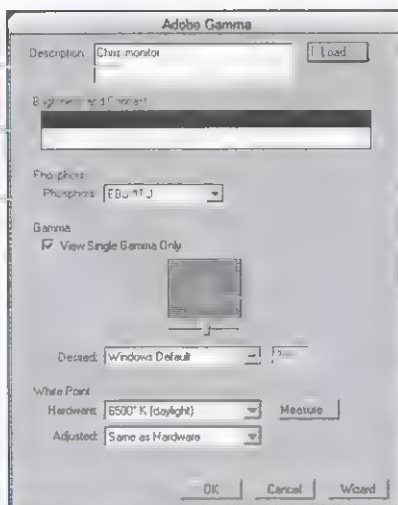
tools, but don't start work until your monitor has been running for at least 30 minutes to allow it to warm up.

THE ADOBE GAMMA CONTROL PANEL

You can choose to use or load one of many existing ICC profiles as a starting point and you'll notice that the monitor adjusts to the initial settings.

The brightness and contrast areas are self-evident – you want a bright white and a dark black without either being influenced by the other.

You'll need to refer to your monitor's documentation to find the best phosphors type, or you can choose custom to manually enter the chromaticity co-ordinates.



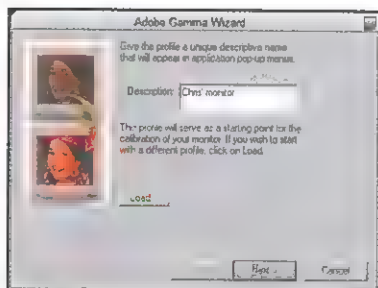
The Gamma slider presents you with the most problems, but you may find it easier to adjust individual Gamma settings by un-checking the option available.

The desired gamma field should be set to match your system – 2.2 for Windows and 1.8 for Macs.

Check your monitor's documentation to configure the White Point settings and leave the Adjusted field the Same as Hardware to keep things consistent.

Monitor calibration

Don't ignore the Gamma Control Panel Wizard – it's probably the most important adjustment

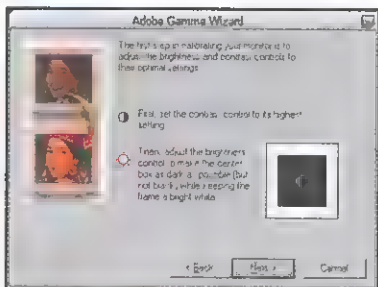


1 Launch the Adobe Gamma Control Panel and choose the step-by-step wizard approach before clicking Next. Provide a unique name for your settings in the next screen and click Next to move on. Once you've completed the configuration you'll be able to make use of your own ICC profile, which will be best suited to your monitor.



ICC profile

A universal standard defined by the International Colour Consortium. The ICC profile helps you to get the correct colour reproduction between various devices such as your monitor, digital camera and scanner.



2 The next stage is to balance the brightness and contrast in order to make the white border as bright as possible without washing out the black. Click Next again to define your monitor phosphor settings, which you'll need to track down from your monitor's documentation.

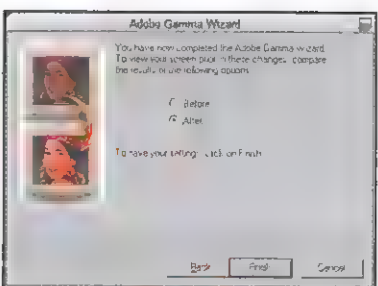


3 The actual gamma settings are the most problematic for most users. First set the desired Gamma to match your operating system and then drag the slider to best blend the central square with the outer border – If this proves tricky then try the individual RGB settings, which may help.



Fade to grey

If you're having difficulties matching the gamma settings and can't decide on the best settings then try squinting or focusing beyond the screen while moving the slider and the results will be much easier to gauge.



4 The Hardware White Point will be determined once again by your monitor's documentation, while the Adjusted White Point should be left Same as Hardware in most situations. The final stage is to compare the before and after settings, so that you can see how your changes affect the display. Click Finish to complete the process and save the profile.

Correcting dark images

There are many different ways in which you can compensate for an underexposed image



Adjusting exposure

Making use of adjustment layers as opposed to the Image > Adjustments sub-menu will be of benefit as you determine the best settings or combination of adjustments necessary to brighten your image. Using this method you can freely change settings without continually damaging pixel content.

It's always preferable to have a well-balanced original image, but there will be occasions when this isn't possible. Thankfully Photoshop can help rectify the problem and, although the results can never be as good as if the original exposure had been metered correctly, they can be quite dramatic.

We were introduced to the potential behind the curves and levels adjustments in chapter two. These tools allow you to recreate highlights and shadows by setting black and white points within an

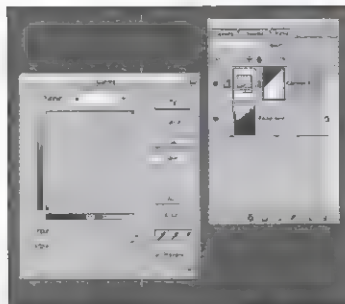
image. Used on their own they can be very effective tools, but when used together with related adjustment options even more balance can be achieved.

Ideally, however, your corrections should be achievable with only one adjustment, as the least amount of modification to your image means minimal destructive actions are being applied to your work. Mastering the Curves controls for example, while making use of blending modes, often provides the most consistent results.

BLENDING MODES

Enhance the effect of curves through Blending Modes

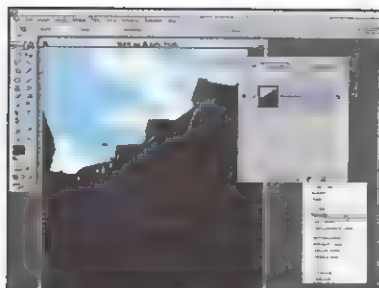
Although adjusting the balance of an image using levels or curves will often provide effective results, there may be occasions when even such subtle adjustments may be too much, especially with images that are excessively underexposed. To counter this you could always turn to adjustment layers and make use of a default curve setting, applying a simple screen blending mode to the layer for example to enhance the original layer in a much gentler way. Other modes may be more suitable depending on your original base image and only experimentation and experience will yield the best results.



The application of an unaffected adjustment layer that makes use of Blending Modes is a useful technique

Let there be light

Adjusting the light levels of underexposed images can reveal previously unseen elements



1 Open the *street.jpg* file from the CD. The camera has used the bright sky to determine the auto settings, resulting in a dark foreground which makes the focal point of the image far too dark. To counter this create an adjustment layer using the shortcut icons at the foot of the Layers palette choosing the Levels option. OK this to create the layer and choose the screen blending mode.



2 The result is already quite dramatic, with a considerable amount of detail becoming evident. However there are still some dark regions, most notably the people in the foreground of the picture, while the sky now suffers from over-exposure due to the way the Adjustment layer affects the entire content of the layer.



3 To solve the sky problem we can simply apply a gradient into the adjustment layer mask to reduce the area within the image that is being affected and bring back the original colours. If you manage to follow the line defined by the tops of the buildings and apply the darker content to the sky area, then the effects of the adjustment layer will be by-passed in this area.



4 With the basic adjustments made and the mask leaving the sky unaltered, we can now open the Curves dialogue by double-clicking on the adjustment's thumbnail to further modify the curves and bring out more detail. To solve the issue with the foreground characters we've made use of the Dodge tool to bring out some additional highlights, as shown.



Street.jpg

Use the *street.jpg* file from the CD to stroll through the adjustments outlined here. The image suffers from poor exposure due to the metering being taken from the bright sky as opposed to the main scene.



Limited results

The final results here after only a small amount of work are quite impressive, but if you're in the position to retake a shot with revised settings then do so – minimal adjustments will always create much better results.

Rescuing overexposed images

More Curves adjustment will bring some colour back to overexposed images



Suitable

blending modes

Whereas overexposed photographs benefited from blending modes that reduced the content of a layer, the opposite is true with underexposed images. Make use of modes such as Multiply for the best results.

Identifying an overexposed image is often harder for the untrained eye unless an image is more obviously bleached. Many digital cameras tend to overexpose their results slightly due to the sensitivity of the technology, so the novice user will generally look through their images and subconsciously average out the results and remain oblivious of the issue.

For an image to be evenly balanced it should appear as though the darks are a strong black while the whites remain brilliant. If darker

colours appear slightly opaque on closer inspection then chances are you need to compensate by adjusting the image's curves but in an opposite manner to the underexposure methods we looked at previously.

The problem, however, isn't unique to digital photography. Positive slide images and slide films may also suffer, as can older images which may have been subjected to strong sunlight. Again, we can rectify such problems in Photoshop, although the results can never be as good as a well-executed original.

TOO FAR GONE

There are some instances when images just can't be rescued

To fully understand the limitations on salvaging images with exposure problems you need to be aware of how Photoshop manages the task. When adjusting Curves or Levels the software uses the existing pixel information to adjust the level of relative brightness and contrast. As such Photoshop needs a basic amount of information if it is to carry out the correction effectively. If an image is so exposed in either direction that pixel content is a pure white or saturated black, then chances are it will be difficult, if not impossible, to rescue an image. You should bear this in mind, because excessive compensation will lead to image degradation.



Once you understand the rules you can break them. This image was deliberately overexposed for effect

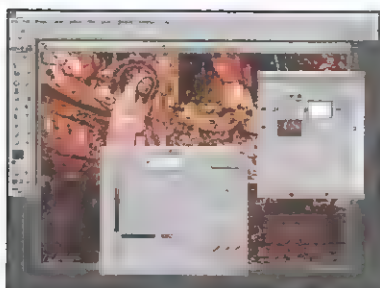
Turn down the lights

Salvaging overexposed images involves similar principles to correcting underexposed ones



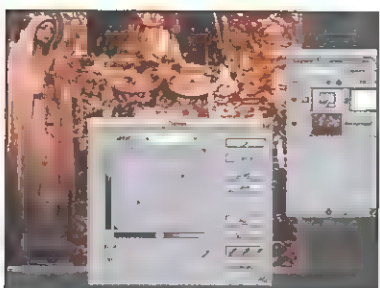
Open the gold.jpg file and take a moment to recognise its failings.

On first inspection the image might appear satisfactory, but the colours aren't quite as rich as they could be due to the camera attempting to capture as much light from the darker areas, leaving much of the brighter detail overexposed.



In a similar manner to how we adjusted the underexposure issue, create a new adjustment layer using the Curves option.

Leave the graph unaltered and return to the main image by pressing OK within the Curves dialogue. As we're trying to increase the light balance, set the layer's blending mode to Overlay and you'll notice how the image instantly becomes much more saturated.



Edit the adjustment layer's curves once more and create a similar shape to that illustrated here, and you'll see how the colour and light balance shifts to bring out greater depth, colour and detail within the image. Once you've approved your curves settings don't forget you can constantly preview the before and after results by toggling the adjustment layer's visibility.



If you feel that any areas have been over-compensated then experiment with the adjustment layer's mask by applying shades of grey into darker areas. This will subdue the effect on a more local level. As you can see here the results are quite dramatic, considering how relatively satisfied we were with the original image.



Gold.jpg

You'll need the gold.jpg file to try the settings we suggest here. The image suffers from being a little exposed as the light reading became confused when the camera tried to balance the dark shadows and bright reflections, leading to some loss of saturation



Multiple blends

On some occasions you may feel an image would benefit from multiple blends being applied. Although you can only apply a single blend to a single layer, you can just as easily stack multiple layers to achieve the same end, while having the benefit of being able to revise the stacking order for more experimental results.

Faking light with filters

If you need to shed some extra light on your image, turn to the Lighting Effects filter



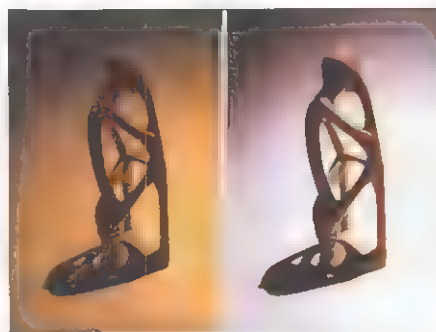
Adding light sources

If you need more light sources than the default options allow simply drag the light bulb icon on to the preview from the bottom of the Lighting Effects dialogue box. You can then rotate and determine the focal length to suit your requirements for more unique results.

Some images cannot be rescued effectively but still have to be used. In such circumstances there may be no other alternative other than to get a little bit creative.

One such method of salvaging an image is to make use of Photoshop's Lighting Effects filter found under the Filters > Render options.

Accessing this tool provides some powerful lighting variations that can transform an image into something usable. There are numerous possible modifications to the Filters interface depending on the lighting effect



The original image, shown on the left, needed to have the contrast between the subject and the background made more distinct

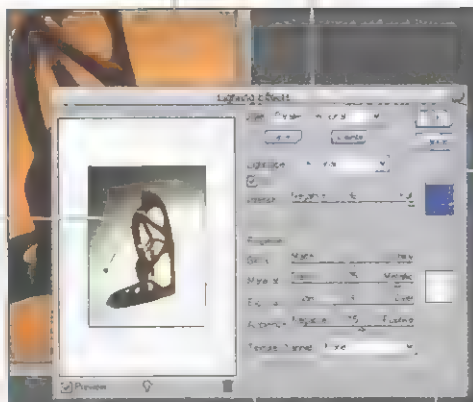
chosen, but the main options outlined below should give you some idea of what to expect.

CONTROLLING LIGHT

The original image is available on the desktop and remains unaltered until the final effect has been approved.

A preview of your lighting effect is visible in the form of a thumbnail image. You can also adjust the positioning of the effect and the direction of cast light using the anchors provided.

The Texture Channel lets you use a greyscale texture to control how light reflects from an image. This can be applied to individual channels which your image's colour mode supports.



The Style drop-down options provide various pre-defined lighting effects to choose from. The interface will adapt depending on your preference.

The Light Type area allows you to select from various light behaviours, as well as setting the colour of the light, which can influence the final image.

Properties are available in different combinations depending on the style of light initially chosen, but these too allow any number of combinations.

Precision tools

For more specific adjustments you may need to start Dodging and Burning

Many of the adjustments we've considered have had implications for an entire image, as most routine retouching adjustments tend to affect an image as a whole. However, on occasions you'll find that not all detail can be salvaged in such a generalised manner and you'll have to turn to the Dodge and Burn tools to either tone down overexposed regions or bring forward darker areas.

If you have traditional darkroom skills the use of these tools will be second nature. The following points



This image shows detail from our original underexposed scene. The characters in the centre were enhanced using the Dodge tool

should explain the minimal but important features found on both tools' related options palettes.



Watch your history

Making use of tools such as the Dodge and Burn options requires frequent application and you'll soon find your History palette filling up with a long sequence of similarly-named actions. If you think you may need to go back to before you accessed the tool it may be worth considering duplicating the image layer in case your history is too busy to trace back.

DODGE AND BURN OPTIONS

- **THE FIRST** option available, indicated by the selected tool, provides the ability to save a preferred combination of settings for subsequent use.
- **THE BRUSH** option is a common setting among many of Photoshop's tools and lets you define the brush type and size your tool will adopt.
- **THE RANGE** settings provide the tonal range your adjustment will affect – setting this to Highlights will increase only the brighter areas of an affected region when the Dodge tool is used, for example.
- **THE EXPOSURE** slider might be easier to comprehend if you imagine it determines the amount of 'paint' your selected tool will apply. The Burn tool, with a higher exposure percentage, will have a more heavy-handed approach, while a lower setting allows more control and subtlety.
- **TOGGING THE Airbrush** button will change the behaviour of the selected tool to emulate such a method of affecting pixels.



Duplicate and merge

If you're nervous that your changes will do more harm than good as you experiment with the Dodge and Burn methods, consider creating a new layer from a selection around the area in question. If you're happy once you've completed your changes you can merge the layer back down, or delete and start again if things haven't quite gone to plan.

Chapter 4

CORRECTING COLOURS IN PHOTOSHOP

by John Chapman

□ **Examined & Approved**
A tested method

□ **Get the best results**
Using an expert's advice

□ **Learn the secrets**
of Photoshop

□ **Get the best results**
Using an expert's advice

□ **Get the best results**
Using an expert's advice

A key aspect of retouching your photos is colour correction. We help you to balance your tones to bring out the best colours without you seeing red...

Adjusting the colour of an image can transform it from just another boring snap into a feast for the eyes, drawing the viewer towards details and enhancing an otherwise dull image. Naturally, Photoshop has an abundance of tools and techniques which can be used to enhance images and – as is so often the case with such a flexible application – there are often more ways than you might imagine to reach similar aims. Over the course of the next chapter we'll be looking specifically at colour retouching, understanding how colour works both technically and practically, and showing you how to make the

most of your original images, regardless of their quality.

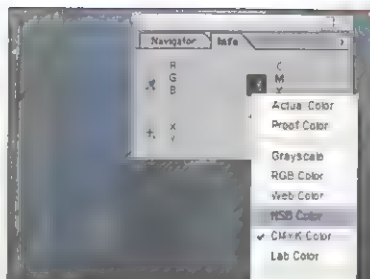
Colour essentials

There are actually two types of colour that you need to understand; additive and subtractive. The former needs a light source to create hues such as those displayed on a computer monitor. We've already touched on this briefly in chapter two – when the primary colours of red, green and blue are mixed, they create additive colours which, when combined, produce a pure white.

Subtractive colours, on the other hand, which are most commonly used in in print, work on the



Page 42 Understanding how colours work in Photoshop is essential



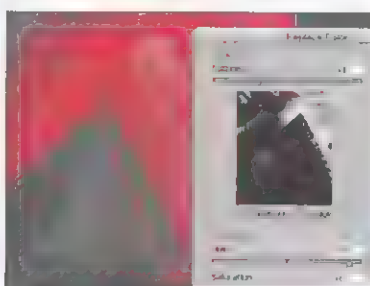
Page 44 Understanding colour casts is important if you want to correct them



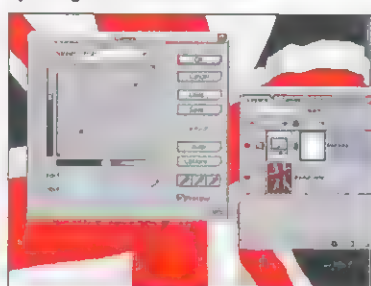
Page 45 Correct colour balance quickly by using the Variations tool



Page 46 Use a more manual approach for correcting colour balance



Page 47 Change the look of your images using the Replace Color tool



Page 49 Take things a step further by working with Levels and Curves

opposite principle of absorbing light. In such an instance mixing the secondary colours of cyan, magenta and yellow produces a black-brown colour.

You can see this more clearly in the diagram on the following page, which illustrates how merged primaries make secondary colours and vice-versa. This is an important relationship to understand, as you can see at a glance colours that match or contrast. For example, if an image is too blue then you can choose to either reduce the blue or add more yellow as this is the opposite tone and will therefore neutralise the problem.

Studying saturation

We'll also be looking at different colour models and showing you how to recognise and adjust colour 'casts', which can discolour your images. More selective colour adjustment is another skill you'll appreciate as you bring out the depth of your images, as we take a different approach to tools we've already considered as well as introducing new ones specifically for colour correction.

By the end of the chapter you should be starting to feel as though you are a little more accomplished as we continue with the basics of image retouching.

Understanding colour models

Just what is the difference between RGB and CMYK, and what on earth does HSB give me?



Losing colour

As you might expect, converting an image from a colour mode into something like greyscale will mean you lose any colour information within the file, so either apply this to a duplicate or be very certain that it's what you want to achieve.

The chances are that colour models have probably eluded you – you open Photoshop, edit an image and the relevance of colour modes isn't too apparent. Such modes are available via the Image > Mode sub-menu, although most of the time you'll be fine in the default monitor environment of RGB.

However, if your work is intended for high-quality print you may want to consider converting your image to CMYK for your colour blends to match those used in printing. Converting RGB images to CMYK



Primary colours produce additive colours, as shown on the left, while subtractive colours rely on secondaries, as seen on the right

in Photoshop can be as simple as selecting the new mode via the Image > Mode sub-menu, although you'll need to check your work carefully for any colour shifts.



Colour shifts

As different colour models use different principles for creating colour there will be occasions when changing modes results in colours not being accurately replicated. Photoshop will try and match the closest tones – this difference is known as colour shift. Keep an eye on your Color palette because RGB colours that cannot be rendered in CMYK, for example, will be flagged with an exclamation mark offering the closest compatible hue.

COMMON COLOUR MODELS

- ☐ **RGB** uses red, green and blue to mix colours in an additional colour space that is the default method for computer monitors, digital cameras scanners and other hardware.
- ☐ **CMYK** is a subtractive colour mode used predominantly in printing and pre-press, which is formed using cyan, magenta, yellow and black. Working in CMYK will ensure your work prints better, although the extra channel makes file sizes substantially larger.
- ☐ **LAB** is another three-channel mode based around a luminosity channel (L) which is separated from the 'a' channel, which contains colours ranging from red to green and the 'b' channel, containing blue to yellow.
- ☐ **HSB** stands for hue, saturation and brightness and provides characteristics more in common with the human way of recognising colours through the way light influences a base colour.

Combining RGB and CMYK

Photoshop intelligently changes modes from RGB and CMYK, but there are issues to identify

Although digital cameras and scanners capture images in RGB mode, you may have occasion to transfer into CMYK for various reasons, not least of which includes the use of tones which the print model includes. However, converting from one mode to another is only really advisable if your end media relies on one or the other, as it will reduce rounding errors and file decimation.

With a little lateral thinking you can get round this by duplicating the original RGB image and converting

the copy to CMYK to work on the necessary adjustments. Once you're happy with the adjustments flatten the file, if you've carried out the modifications using adjustment layers, and then select the entire image and copy it.

Return to your original RGB version and paste the new version into place, positioning the new layer above the original. Changing the new layers blending mode to Color will result in a colour-corrected image in RGB, which you can continue to work on.



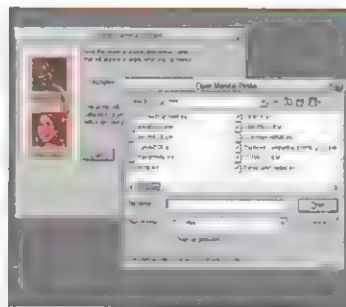
View your work

The View menu has a number of options available when working in print modes to help you make sure your colours appear as intended. Set the Proof Setup to see how colours might appear on white paper or make use of the Proof Colors or Gamut Warning for some visual indication as to how your work may finally be rendered, depending on your end media.

COLOUR MANAGEMENT

Matching colours across different devices

As your digital camera, scanner and computer use different colour spaces, you'll need to ensure consistency between such hardware. A colour management system (CMS) compares the colour space between the original source and the output, making necessary adjustments to represent colour as consistently as possible. Photoshop uses a CMS based around conventions developed by the International Colour Consortium (ICC). An ICC workflow uses colour profiles to determine how colours translate to actual colour appearance. By associating a document with a profile you provide the definition of its appearance.



You can make use of ICC profiles to help with colour management when calibrating your hardware

Identifying colour casts

Before making colour corrections to images you'll need to be aware of some problems



Accessing the Info palette

The Info palette should be available by clicking the tab paired with the Navigator option, but if neither are available then choose the Info option from the Window menu. If you make regular use of both palettes it may be worth considering separating the two by dragging one of the tabs away from the other to become free-floating

The first requirement before attempting to correct colour balance is to understand how colour casts can affect an image. Colour casts can be recognised by the tint they wash over an image. If you look towards any lighter regions of an image you should be able to recognise any influencing colours.

The phenomenon is caused by environmental circumstances around the original photo shoot and the way digital cameras interpret light. For example, if it's slightly overcast and you're shooting architecture the lack

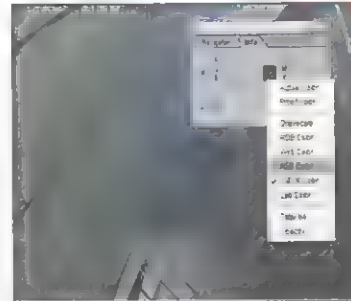
of available lighting and the way it reflects from the subject would cause a noticeable blue cast over an image, while artificial indoor lighting can often throw an orange glow around an image.

Thankfully, the cast is equally applied to the entire image, so making a single modification will usually fix the problem. Look back to the colour diagram on page 42 to see how colour relates and you'll see that to reduce a blue tinge you would need to either add more yellow or simply reduce the blue channels.

THE INFO PALETTE

Use this dedicated palette to pick colours out of context

It can often be difficult to isolate a colour cast with more subtle tinges, as the entire image will be equally balanced under the colour. If this presents a problem you can always turn to the Eyedropper tool to pick out isolated areas to distinguish the white balance or turn to the more flexible Info palette. Grouped with the Navigator tab, the Info palette displays information about the colour values beneath the cursor. Although this may seem to lack any interactivity you can change the modes in which the tool displays colour information by clicking on the Eyedropper icons within the palette and choosing an alternative method.



Change the default colour modes that the Info palette displays by clicking on the Eyedropper icons

Quick corrections

If manual colour correction is a little daunting, take advantage of the Variations tool

For anyone new to retouching, the concept of adjusting global colour balance can be daunting, especially if their understanding of colour relationships is still in its infancy. Fortunately, Photoshop provides the Variations tool, found at the foot of the Image > Adjustments sub-menu, for just such a task.

Launching the tool with an image open will generate a number of different colour alternatives in which Photoshop adds primary or secondary colours in an attempt to fix basic balance problems. The two



The less than ideal lighting combined with the blue sky reflecting from the buildings has caused a noticeable blue cast to this image



Clipped colours

The Variations preview allows you to preview clipped regions. These are sections of your image that will be converted to pure black or white depending on their current tonal range and your adjustment. Restrict your changes to midtones to avoid such undesirable shifts.

images at the head of the interface preview the original and affected versions, and allow any number of modifications to be made before you approve the new settings.

CONTROLLING VARIATIONS



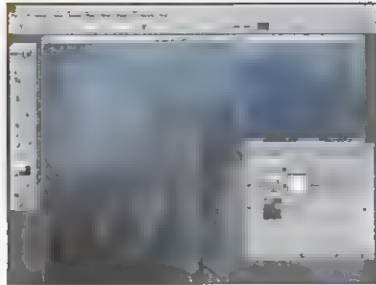
Balancing colours

Variations are fine for basic changes, but for more control you need to understand Colour Balance

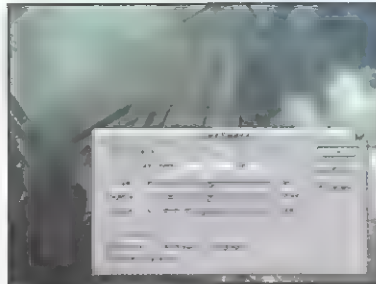


Tower.jpg

Take the tower.jpg file from the CD to continue with this walkthrough. The image is a little too dark and suffers from a strong blue colour cast that will need correcting.



1 Open the tower.jpg file from the CD and you'll notice that the image is looking a little dark and has a distinct blue cast influencing it. As is often the case, the first thing to adjust is the image's curves. Use an adjustment layer to create a basic balance – we'll be modifying this further once we've balanced the colours.



2 Next, create another adjustment layer, but this time making use of the Color Balance option. This loads with the midtones selected by default and provides a number of sliders depending on the image's colour mode, which allow movement between primary and secondary colours. Start off with the obvious by reducing the blue, making sure to adjust the Shadows and Highlights options too.



3 This action will then make more apparent the amount of green in the image, so reduce these levels too. You may then want to experiment by adding a little more red to the image to add a little warmth to the subject. As each adjustment will have varying affects on previous changes you may need to revise previous settings before you find more balanced colours.



4 You'll then need to readjust the original curves that were created to compensate for the colour balancing, but by using adjustment layers we can do this confident in the knowledge that any changes will not be affecting the pixel content of the original image. The before and after shots shown here show how powerful this combination of retouching tools can be.

Curves over contrast

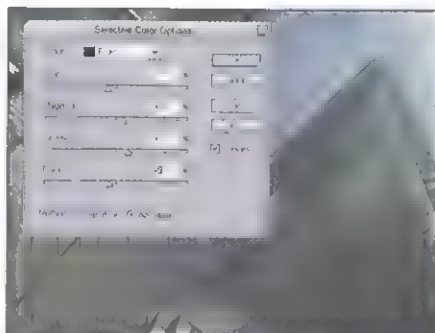
On some images you may need to boost the Brightness or Contrast but, wherever possible, your first choice must be to see whether this can be done as part of your Curves adjustment. This will ensure your image retains as many of its original qualities as possible without having pixels destructively replaced.

Selective colour correction

For more precise control over colour range you'll need to use the Selective Colour Options

The average image will benefit from Colour Balance options as we demonstrated on the previous page. However, this method involves shifting colour information away from one source and towards its opposite, for example from blue to yellow. If you need more precise control over your base colours then you'll need to turn to the Selective Colour Option, also found within the Image > Adjustments sub-menu.

From here, you can select any of the primary and secondary colours along with black, white and neutral



The Selective Colour Options provide more precise control over primary and secondary colours without compensation

tones and make more specific changes without compensating your image in other colour areas.



Why CMYK?

Although you may be working in RGB mode, the selective colour controls are presented as CMYK sliders. In this way you can adjust the amount of process inks without affecting any other primary colours.

SELECTIVE CONTROLS

- ❑ **THE COLOUR** options found within the drop-down list at the head of the tool allow you to choose individual primary or secondary colours as well as black, white or neutral tones for more precise control.
- ❑ **THE SLIDERS** contained within the main body of the tools dialogue box allow elements of each tone to be more subtly modified. By using these only specific colour regions will be affected, while other areas will be untouched.
- ❑ **THE RELATIVE** method changes the Colour Balance in relation to the existing amount of colour in the image, while the Absolute method disregards current levels to make more specific alterations.
- ❑ **YOU CAN** choose to save and load your settings if you find yourself working on batches of images that suffer from similar problems experienced in the original shoot.



Which method?

When making Selective Colour changes you have the option to use Relative or Absolute methods.

The former changes the existing amount of a colour by its percentage of the total already in place within the image. The absolute method uses more fixed values, so for example if you start with 50% cyan and add 10% you'll end up with 60%.

Replacing colours

For more random and creative results you can always turn your hand to replacing colours

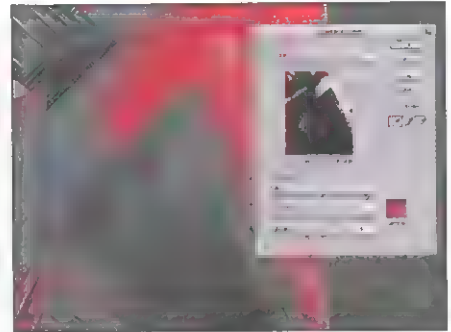


Reset the image

Don't forget, as with many of Photoshop's dialogue boxes, if you hold the [Alt] key down the Cancel button will convert to provide the Reset ability. This can be useful for reverting to your original file if you've experimented with settings that haven't quite worked out as planned, without having to cancel the operation and accessing the feature anew.

So far we've concentrated on tools designed specifically for retouching our images and, although the results are often impressive, they don't provide many avenues for more creative work. The Replace Color tool found under the Image > Adjustments sub-menu, however, has much more potential in this area.

With the tool selected you can choose regions of an image before adjusting the hue, saturation and lightness and it becomes easy to create quick colour variations. However, the tool is not available as



The thumbnail image available within the tools dialogue box gives some indication as to the amount of the image that will be affected

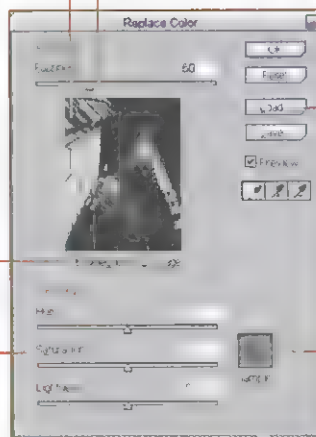
an adjustment layer, so make sure you duplicate any affected layers before application.

REPLACE COLOR OPTIONS

The thumbnail image provides a mask preview of the affected image. Any regions marked as black will remain unaffected by the colour replacement.

The Image option previews the image from which you can select regions. However, the Selection option will provide a better idea of the generated mask.

Once a selection is made you can adjust the HSL levels using the sliders available. Keep the Preview option checked to see how your adjustments affect the image.



The Fuzziness slider affects the tolerance of the mask, controlling the degree of which related colours are included in the selection.

As with similar colour adjustment options available in Photoshop, you can choose to save or load your preferred settings.

The various Eyedropper tools enable you to choose specific regions or add or remove areas from your initial selection.

Extreme colour correction

You can salvage even the most extreme light or dark image if you know Levels and Curves

Whether an image has suffered from poor settings at the shoot or an old photograph has faded over time, there will be occasions when even the darkest image needs to be cleaned up. Only the composition and the problem will dictate the best methods of resolving the problem, but turning to your Levels or Curves should be the first point of call.

First, you need to evaluate the context of the image. Can you determine any points which you think may contain white content?

If so, using these areas to determine the white point using the Eyedropper tool available to each should help to get the balance started.

Also, don't forget the importance of adjustment layers when making such changes. Of course you can use additional options directly from the Image > Adjustments sub-menu, but these will physically change the pixel content, making subsequent adjustment even more destructive to your original image. Using adjustment layers on the other hand allows you to change your mind.



Individual channel adjustment

Something many novice Photoshop users often forget is that both the Levels and Curves tools provide options for adjusting individual colour channel data. Make use of these to adjust more specific colour content and you'll find your results are much more effective than if only the composite channel is used.

LEVELS OR CURVES?

Which method should you use and when?

Choosing between the Levels or Curves commands depends on the image, its problems and your preferred working methods. Given time and experience you'll soon figure out which is the best tool for a particular job, but mastering the Levels tool is the first priority. With its simpler methods of adjustment the tool will give you a good insight as to how such adjustments are carried out by Photoshop. Once you've got to grips with that, you can consider the more flexible Curves approach. Having multiple anchor points with which to balance your image makes this the more flexible option, although it can take some getting used to.



Use the Eyedroppers to establish a white point in a dark image and half the task will be done for you

CLEANING UP IMAGE TEXTURES

A key aspect to consider when retouching images is the removal of any dust or scratches that were present on the original photo. This lays the foundation for a cleaner image

With traditional source materials, such as scanned photographs, additional complications can come into play when you start retouching or restoring your images. Dust, scratches and even mould can often affect older images which have been stored for some time, and such factors can make the entire process of enhancing your image more difficult, as well as affecting the quality of the image itself.

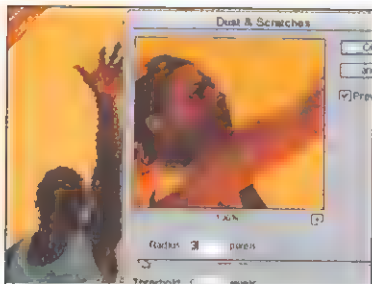
Cleaning up such anomalies is another essential job if you are to get the best from your images. And whether the problems were present in the original print or have been

introduced during the scanning process, they need to be tackled before the finer points of the image can be brought out.

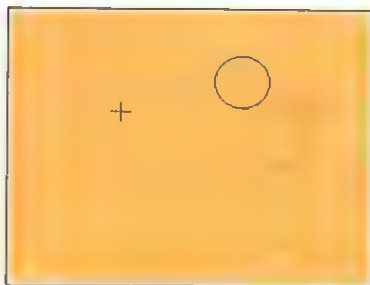
Get it right

Of course, it's always be preferable to have as good a quality original image as possible, so if you have access to the original images it may well be worth rescanning them after you've physically taken care of any easily-rectifiable problems such as high dust levels, which can simply be wiped off the print.

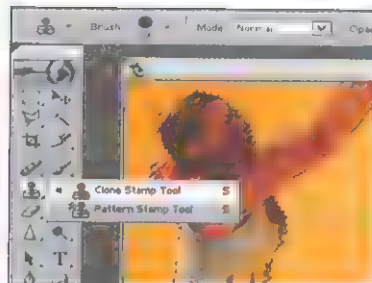
Be very careful when cleaning photographs or negatives however, otherwise you could end up making



Page 52 Remove dust and scratches before you adjust your image



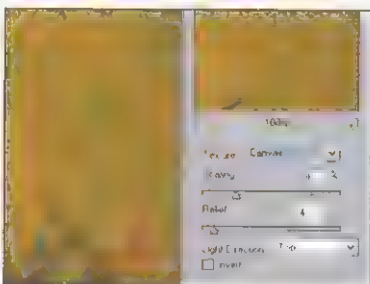
Page 53 Learn how to remove mould stains from poorly-stored pictures...



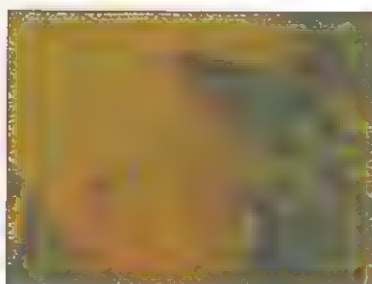
Page 53 ...using the Clone Stamp or the Healing Brush



Page 54 Learn the various methods for reducing print textures



Page 55 Just as you can remove texture from an image, so you can add it



Page 55 Convert photographs into original works of art by applying filters

more work for yourself because you have damaged the original. Using compressed air to remove dust will solve that problem quickly and easily – too vigorous a wipe could cause scratches which become a permanent feature.

Problem solving

The following chapter will address some of the more common problems which can arise when tackling jobs such as removing dust, scratches and mould. We'll also be looking at how to reduce moiré patterns and textures which may have resulted from print scanning, as well as reducing digital camera imperfections. The flexibility

of Photoshop means that such problems can usually be resolved using a number of different techniques, and only time and experience will enable you to select the most appropriate treatments as you continue to clean up your own images with their own problems.

However, the following pages should give you some ideas and a good starting point for tackling the most common problems, which you can then adapt to better suit your particular needs. And by modifying or combining such methods, you'll develop your own techniques to approach the various problems you'll encounter.

Removing dust and scratches

Let Photoshop sweep away the dust if you don't have access to the original image



Brush size

When manually removing specks of dust from an image it's best to keep the Clone Stamp or Healing Brush size to a minimum so you can deal with the problem with more precision. However, on some occasions you may need to make use of a larger brush with soft edges to enhance the blend, if the distinction between the blemish and its surroundings is more exaggerated.

Depending on the exact nature of the problem, there are many ways of removing unwanted elements such as dust and scratches. For most situations you'll probably turn to the Clone Stamp or Healing Brush tools for manual removal, although these are best used on more focal aspects of an image.

For less obvious areas, such as background detail, you might want to consider isolating such areas and making use of the dedicated Dust and Scratches filter found under the Filter > Noise options, although this

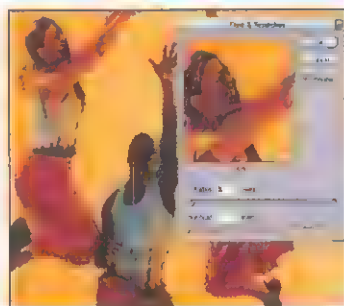
should be handled carefully, as it can throw up as many new problems as it resolves old ones.

Deciding whether to use the Clone Stamp or the Healing Brush is entirely down to how the problem area lies within the image. Despite the Clone Stamp tool being a familiar Photoshop feature, the tool is no longer necessarily the best tool with the newer Healing Brush offering an alternative approach. Each has its strengths and weaknesses but together they provide a formidable arsenal.

DUST AND SCRATCHES FILTER

A powerful tool that can damage your image as much as fix it

The Dust and Scratches filter will effectively deal with those particular issues, although some understanding of how it works will ensure you don't create any new problems. The tool works by analysing an image's content and evening out any offending detail. It does this effectively by allowing you to determine the level of detail it should consider, but if applied to an image without precise selection you risk affecting the main subject as well. The feature is best used on selected regions and is particularly good at cleaning up large areas of background; for more precise control it is much safer to use the Clone Stamp or Healing Brush.



The Dust and Scratches filter is best used on selected large areas of an image, such as backgrounds

Removing mould

Poorly-stored images can fall victim to mould, but this too can be effectively removed

The best way to avoid mould being attracted to your photographs is to store them in a location with relatively low humidity. The problem is caused by the fact that the gelatine, which forms the base component within the emulsion of films and prints, is an excellent nutrient to fungi. To add to the problem, insects are then attracted to the mould and are more than happy to indiscriminately eat away at your images.

Some of the methods we looked at for removing dust and scratches will

apply to the removal of mould, although if possible it is always best to treat the original image to stop the ravages of time further destroying your valuable pictures.

You can clean the image gently using a cotton swab and some Kodak Film Cleaner, although if your images are of particular sentimental or financial value it might be worth getting the job done professionally as you could damage the image further. Once you've got the best scan possible you can then turn to the Clone Stamp or Healing Brush.



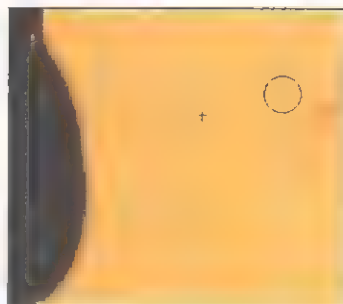
Hard brush

As the Healing Brush automatically adds a feather around the area being treated it provides much better results if a hard-edged brush is used. The Clone Stamp, on the other hand, will benefit from a softer-edged approach to get the best results.

CLONE STAMP OR HEALING BRUSH?

A powerful combination – but which is best for the job?

The Clone Stamp tool has been available since the first version of Photoshop and has become an essential retouching feature. However, the addition of the Healing Brush has provided an alternative for when a more subtle approach is called for. Whereas the Clone Stamp will simply replicate a sampled region of an image, the Healing Brush applies similar principles with a more intelligent approach to analyse the texture, colour and luminosity values before application. The Healing Brush also adds a 10-12 pixel spread around the treated area, giving it additional blending powers when recreating a texture.



The Healing Brush allows for more subtlety when retouching than is possible with the Clone Stamp

Reducing print textures

Older photographs may have been processed on textured paper, which can affect the image



Scanning

If you're scanning a photograph which has been printed on textured paper, never use any sharpening effects from the original scan, as this will emphasise the problem and make retouching more difficult.

There was a definite trend around the 1950-60s to process photographs on to textured paper to add interest to the image, and this can present something of a problem when it comes to cleaning up and restoring older pictures.

We've looked at a few methods of minimising such effects below, and by using a combination of Photoshop filters, layers and layer masks you can start to tackle texture problems, as long as you are able to compromise in certain areas. The results can be acceptable, but you'll



Zooming in to the detail of an image will make any texture which is inherent in the original photograph more obvious

never get as good a quality finish as if the image had been mounted on untextured paper or a negative.



Tilt the image

If you're using a digital camera in preference to a scanner to reduce the amount of texture visible, lighting will help, as will tilting the image slightly to reduce any reflections the texture might create.

A LITTLE LATERAL THINKING...

CONCENTRATE on areas of importance, such as the main subject, for more effective retouching and consider whether background detail can be blurred to reduce the effect.

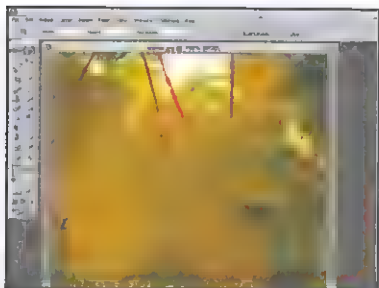
MINIMISE the texture during scanning by either scanning the image a few times larger than you need and then reducing the size back to its original dimension in Photoshop or by using a descreen function, which may be available to your scanning software.

USE A digital camera in preference to a scanner to make a copy of the image. Using soft or polarised light can influence the amount of the texture that is visible.

CREATING a composite of various scans provides another method. Scan the image and then turn it 90 degrees before scanning it again. This can reduce the effect of the paper grain in certain circumstances.

Adding texture to images

Adding texture to digital images is a clever way of converting a photo into a 'painting'

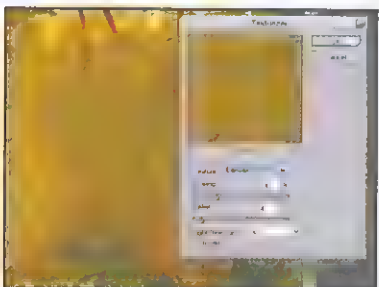


1 Open the **leaves.jpg** file from the CD for an image to which we'll apply some texture. The image itself is perfectly fine as a digital snapshot, but adding texture introduces some character to the image and moves the shot away from the realism of a photo, towards the look of an oil painting.



Leaves.jpg

Use the **leaves.jpg** file from the CD to complete the following walkthrough. We'll be emulating print textures and artistic styles to give the image a more physical appearance.

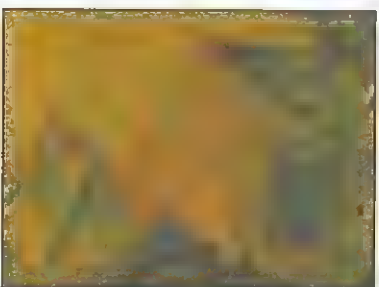


2 Access the **Filters** menu and choose the **Textures** option. From here, select the **Texturizer** option to prompt the dialogue options for the tool. Use the drop-down texture options to choose a particular effect – we've gone for the **Canvas** option for a more artistic approach. Adjusting the scaling will emphasise the effect, while the **Relief** slider controls the depth.

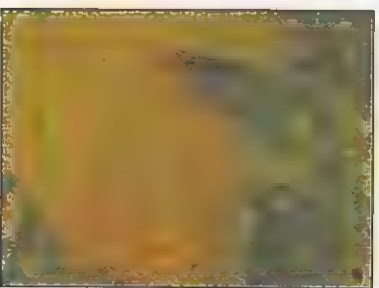


Before you start...

When applying such creative effects to your original images it is always best to make any adjustments to light and colour balance before you start. If you try to make adjustments afterwards you risk distorting the effect, which can create inconsistent results.



3 The resulting effect certainly adds the required detail and starts to give the image a more painted effect, and this can be further enhanced by using the various **Artistic** filters. However, if this is how you want your work to progress you will need to apply the texture as the final detail.



4 This picture here shows the same image after we initially applied the **Crosshatch** filter to convert the original image and provide a more hand-painted effect. We then applied the texture as before to give the image the appearance of being painted on to canvas, which gives a highly convincing result.

Chapter 6

ENHANCING YOUR IMAGES CREATIVELY

In this chapter...

- ☐ **Converting colour to black and white**
- ☐ **Adding blur and sharpening**
- ☐ **Understanding focus**
- ☐ **Emulating focal length**
- ☐ **Using actions**

There's more to getting the best out of your images than simply retouching and restoring them. Interesting detail can be brought out of an image with more creative enhancements

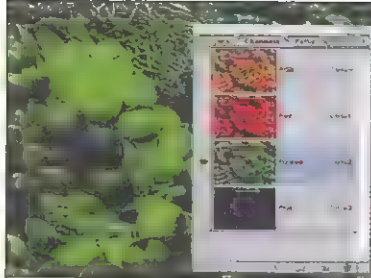
Up until now we've been looking at some of the more fundamental approaches required for bringing out the best of an image through the Image > Adjustment sub-menu. Balancing light and colour settings undoubtedly effects some of the more influential changes you can apply to your images, while more specific colour correction and control over any prevalent textures can be used to control more localised issues.

However, every image presents its own set of challenges and, although the options we've looked at so far will provide some impressive generalised results, there will be

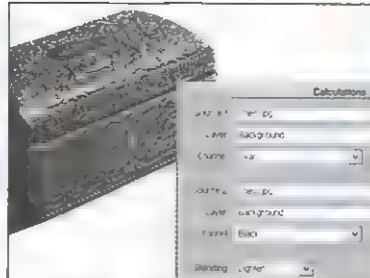
occasions when you will need a more intelligent approach to deal with a particular problem.

Use your head

With some restoration jobs for example, you may find an image has suffered over time and taken on additional colours, whether from being poorly stored or due to the reaction of the photographic chemicals with the card backing. In the case of some older pictures, what may appear to be a sepia tint is in actual fact yellowing caused by age. In such circumstances you'll need to have a good idea of how to restore an image back to its original



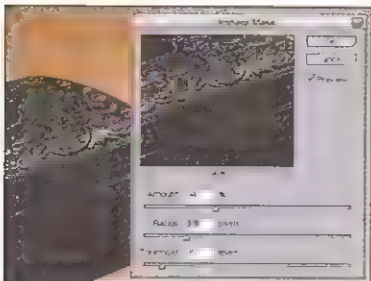
Page 58 Learn different methods of converting colour to black and white



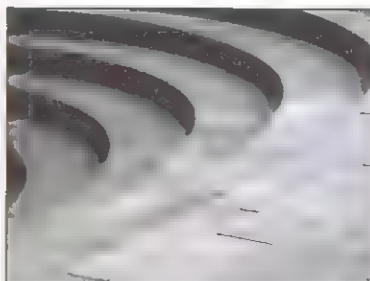
Page 59 Use the Calculations option for more control over conversions



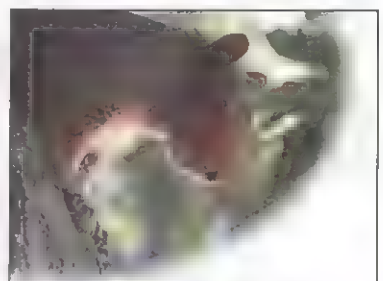
Page 60 Use blurring to clean up backgrounds and enhance foregrounds



Page 61 Enhance image detail using the various sharpening options



Page 62 Understand focal length and how to replicate such effects



Page 64 Add frames to your work to highlight particular features

black and white state by removing any colour content that may be hiding key detail.

You may also find with more recent images that background detail becomes distracting, or the foreground subject may not be quite as prominent as you'd hoped. Having some idea of how to bring out detail or blur distractions also provides methods of enhancing the appearance of an image.

Working efficiently

Many of the tricks we've covered so far will therefore become quite routine tasks that are used to balance the base image before you

move into the more creative process of revising your image. Over the following pages, however, we'll try to address a few of the more specific issues you may encounter, as well as considering methods of automating Photoshop. There are various default Actions included with the Photoshop installation, which help you carry out common editing tasks, speeding up your workflow. We'll look at what is available here, as well as encouraging you to create your own actions for routine tasks, and make use of third-party Actions that can further expand the potential of your graphics editing application.

Colour to black and white

It may seem a straightforward job, but different methods have different advantages



Gradient Map

Another conversion method that retains an image's RGB model is to apply a Gradient Map from the Image > Adjustments menu. This can also be applied as an adjustment layer, so you don't have to worry about destroying pixel data.

There's a certain something about black and white photography that has long fascinated photographers, although shooting in colour provides a better idea of how an image will look. The act of converting an image from colour to monochrome can be done through numerous methods, some very effective and others less so.

One of the least desirable methods of converting your image is to simply change the Image > Mode setting to Greyscale, as this provides no control over the conversion and

many of the finer details are lost. Better results are possible through colour channels, which we consider below. Other methods include making use of the Luminance Channel – whereby you convert your image from RGB to CMYK and finally to Lab mode from where the L channel (lightness) is converted to greyscale – or through the Channel Mixer, which offers a good balance of results and ease of use. It also has the advantage of being applied via an adjustment layer, giving you more control over the final outcome.

CONVERTING THROUGH COLOUR CHANNELS

Delete excess colour data for the best greyscale results

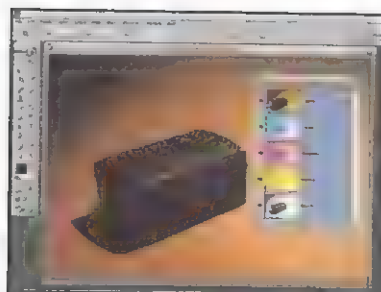
A simple greyscale conversion merges colour data which may not be strong enough for such a basic operation. An alternative is to look at an image's colour channels and decide which layer represents the image best. This tends to be the green channel, but it will depend on the subject and setting. Select your preferred channel and choose the Image > Mode > Grayscale option. You are then prompted to lose the other channel information before your file is converted. Results will vary depending on the original image, but the range of tones should be noticeably greater than if all the channels were converted together.



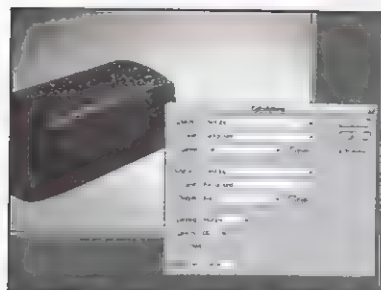
Selecting an image's green channel will often provide the best colour information for a greyscale conversion

Calculated conversions

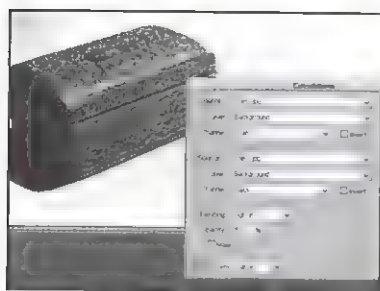
For the best black and white conversion results you will need to get mathematical...



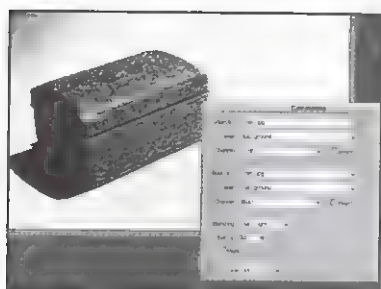
1 Open the chest.jpg file and convert the RGB file into CMYK. We're doing this because the method we're about to employ works by combining two channels, so the additional colour data will provide extra options for us to compare. Look at the colour channels in turn and decide which contain elements of the image that you want to retain.



2 Next, choose the Image > Calculations option to prompt the tool's dialogue box and specify your preferred channels for comparison within the Source 1 and Source 2 fields. We've opted for the Cyan and Black channels, but different combinations will result in different effects. Don't worry if things look a little unsatisfactory at this point, as this will soon change.



3 Adjusting the Blending Mode and Opacity will refine the appearance, depending on the effect you are trying to achieve. Some of the Lightening modes may bleach your work somewhat, while Darkening modes may result in an underexposed feel. We've opted for the Lighten blend with an Opacity setting of 25%.



4 One of the main strengths behind this method of conversion is the flexibility available to you before you arrive at the finished image. Experiment with different channels, blending modes and opacity settings to see the kind of results this method of conversion allows – you'll be amazed at the variety of effects you can achieve.



Chest.jpg

Take the file chest.jpg from the CD to continue with the following steps. The image contains some subtle lighting and contrast that should convert well into a monochrome format.



New document

Make sure the final Result option is set to New Document, otherwise you'll find your conversion may have effects on your original image which you hadn't planned. New Channel and Selection are other options available, but for the purposes of black and white conversion the New Document will serve our purposes best.

Applying blurring to images

Blurring areas of an image can hide a multitude of sins – and draw the eye to points of interest

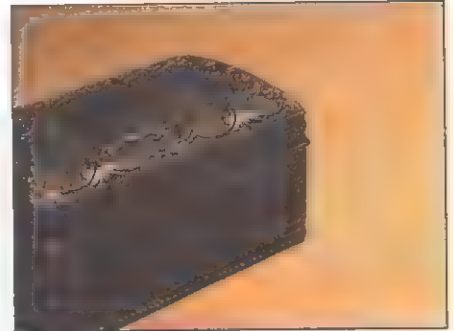


Feathering selections

If you find your blurred selections are bleeding into good areas of your image, the chances are your feathering is set too high. Access the controls for this through **Selections > Feathering** and lower this to a more acceptable level before reapplying the effect.

On occasions it may become necessary to hide detail rather than bringing it forward. Blurring parts of an image is one effective method of disguising elements that either detract from the main subject, or spoil an otherwise perfectly acceptable shot.

Photoshop has an abundance of tools for this task, from the main Blur tool itself which is useful for affecting more specific regions, to the other Filter options found under **Filter > Blur**. You can isolate areas to be affected by making a



A subtle Gaussian Blur has been applied to the background of this image to gloss over speckling and dust found in the original photo

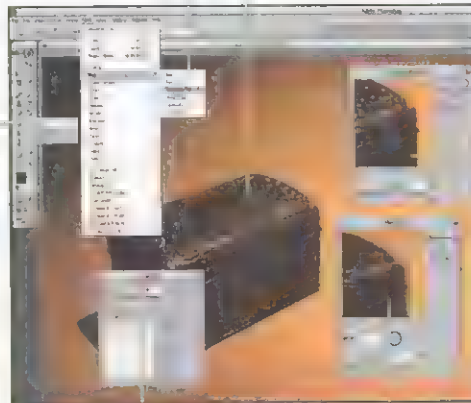
selection within your image before applying effects if you don't want your results to bleed into good areas.

BLURRING OPTIONS

The Filter menu contains an entire range of blurring filters that can be applied to an image or selection. The Blur and Blur More options are one-click effects.

The dedicated Blur tool is available with the related Sharpen and Smudge tools on the toolbar and enables a greater degree of precision to be achieved.

More creative effects such as the Radial Blur will take a little getting used to, but they can provide some interesting vignette effects around a subject.



With many of the effects you have the option of previewing your chosen filter as you modify the settings. Just make sure the Preview option is checked.

The remaining Blur filters prompt their own dialogue boxes unique to their particular purpose. The Gaussian Blur allows more control over the range of the applied blur, for example.

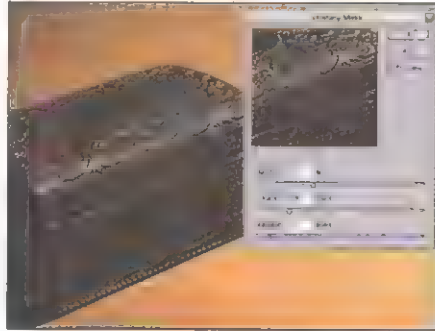
Other effects, such as the Motion Blur, allow an angle of blur to be specified along with the distance over which the image should be affected.

Sharpening images

One of the most common enhancements is sharpening, to bring out additional detail

Whether an image has been taken carelessly with a digital camera or you're trying to bring back some detail into an older faded photograph, there will be occasions when sharpening an image is the best approach to enhance some of the finer details.

As with the Blur options, you can find dedicated tools in the toolbar as well as a variety of filters to help manage the task. Many of the filters, which we take a look at below, are single-click functions that will process the current image or



You can experiment with the curiously-named Unsharp Mask filter to apply more subtle enhancements to your images

selection while others, such as the Unsharp Mask, provide options for manually configuring the effect.



Noise pollution

Be careful not to over-sharpen an image, as this will result in noise and artefacts being created within your image. Avoid this by applying smaller, more subtle amounts of the effect to a selection within your main image or layer to reduce such problems in other areas you may not be focusing on.

SHARPENING FILTERS

- THE BASIC SHARPEN** filter is a single-click action that increases the contrast between adjacent pixels of an image and provides basic correction for blurred images.
- THE SHARPEN EDGES** command is another single-click action that instructs Photoshop to enhance the clarity where significant changes of colour occur. This can often provide more subtle yet effective results than the basic Sharpen filter.
- THE SHARPEN MORE** filter works, as you might expect, in a similar way to the Sharpen filter, although the tool applies a stronger result. Use with care to avoid adding jpg artefacts to your images.
- THE UNSHARP MASK** is more suited for professional colour correction, as it can be manually adjusted via a dialogue box. The end results are similar to that of the Sharpen Edges option.



Keep it real

Remember that it is possible to take sharpening too far, and an image that is uniformly sharpened will appear unnatural. Try to keep in mind the perspective and composition of the original image to bring out only areas that will benefit from such effects.

Understanding focus

To add depth to your images you will need to understand focus and perspective



Why bother?

Faking focal length in Photoshop is an easy and effective retouching skill. It could be argued that leaving your camera on its auto settings might be a good thing, as you can decide post-shoot whether and where to introduce such an effect.

The problem with many digital cameras is that they can often take too perfect a picture. Unless you are more skilled in the art of photography and are able to make manual adjustments to suit a specific situation then the chances are, like the vast majority of snappers, you tend to leave your camera on auto settings before pointing at and shooting your subject.

The end result is generally of a good standard, although there are clear differences between these kind of shots and those taken by

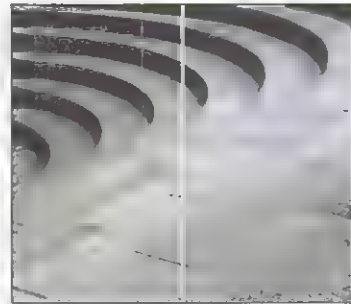
someone who perhaps has a little more empathy with the subject. Professional photographers will take careful meter readings to gauge the best light settings, compose their image carefully and adjust the focus so that the eye is drawn towards the main subject of the picture.

When a camera is left on its auto settings you'll find that the central subject will certainly be satisfactory. However, the surrounding detail will be equally well defined, resulting in an image that is just too perfect for its own good.

FAKING FOCUS

Creating the illusion of focus within Photoshop

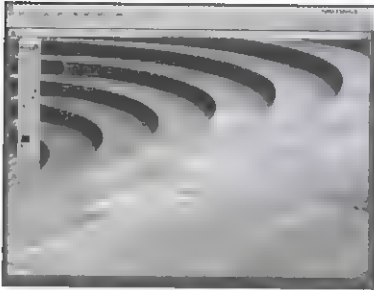
Naturally, to master your photographic equipment takes more than a little experience. We wouldn't expect you to enrol on an evening course just to learn techniques such as considering the focal depth of your images. So it's just as well that Photoshop offers a range of options for creating the illusion of focal depth without you having to leave your desktop. We'll run through the process step-by-step on the next page, but you can see from the image here that the simple act of gradating blur into an image adds another level of depth, as well as attracting the eye towards preferred areas of the picture.



The left-hand side of this image displays the original shot, while focal length has been emulated to the right

Simulating focal length

Using masks, blurs and a little lateral thinking you can fake any kind of focal length

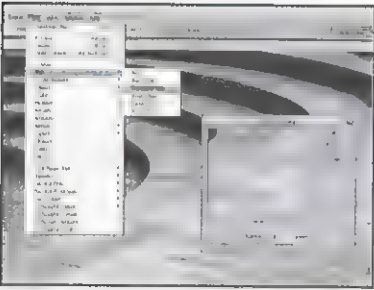


Open the `steps.jpg` file from the CD for a typical digital camera shot taken using automatic settings. Notice how, despite the angle and perspective of the shot, the entire image is sharply focused, producing a effect that fails to give any real indication of depth to the image. To get round this we're going to fake focal length by applying blur that increases with perspective.

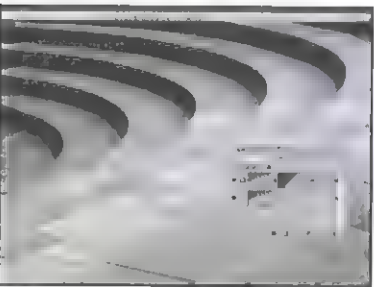


Steps.jpg

Use the `steps.jpg` file from the CD to continue with this walkthrough as we add the illusion of depth to the perfectly-focussed image.



Start by duplicating the background layer so we have two instances of the same image. For the top-most layer, select the Gaussian Blur filter from the `Filter > Blur` selection and apply this using a radius setting of around 3 pixels. This results in the entire layer becoming blurred, creating the illusion that the image was taken out of focus.

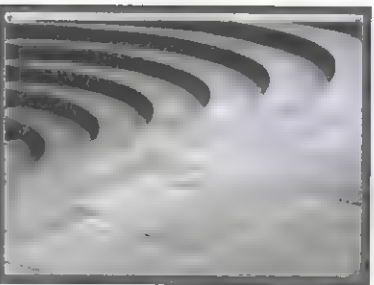


To graduate the effect, add a layer mask to the same layer using the Layers palette shortcut icons, and you'll notice a linked mask appears next to your layer's thumbnail. Click this to activate it and choose the Gradient tool. Define a Black to White gradient using the tool's Options palette and create a gradient within the mask that runs along the natural perspective.



Quick duplication

To duplicate a layer you can choose the relevant option from the Layer menu or the Layers palette sub-menu, although a quick and easy way is to simply hit `[Control]+[J]` in Windows or `[Command]+[J]` on the Mac to instantly replicate the currently active layer.



The gradient running through the layer mask controls the amount of the blurred layer that is visible and how much of the underlying sharpened layer shows through, resulting in the focal length effect as the blur increases gradually from the sharpened area. The advantage of using masks is that we can apply the effect again – here, for example, we've reversed the effect.

Adding a creative edge

A frame can provide an interesting border or help to rescue an old, damaged image



Protect your work

You might be advised to create such edges in their own layers to protect your original image. This way you can easily move or remove the effect at a later date should it no longer suit your purposes.

The edges of an image are often overlooked, but they can enhance an image in many subtle ways. Whether you choose to add a border around your work to enhance the subject or detract from busy backgrounds, or use a similar technique to hide tears on the edges of older photographs, the technique has all manner of uses.

Frames can also be used effectively for creating the illusion of a non-rectangular image for use within a printed document, for example. Quite often such effects



A simple vignette around a focal point will help to draw attention to the subject while removing unwanted detail from the background

are fairly straightforward to achieve, and the results are only limited by your creativity and patience.



Extensis PhotoFrame

If the manual approach to framing your images seems like too tedious a task, then you may want to consider getting hold of the Extensis PhotoFrame plug-in for Photoshop. This contains a huge selection of configurable borders that you can apply to your work. For more information check out www.extensis.co.uk.

CREATING A SIMPLE VIGNETTE

FIRST YOU need to identify the area you want to frame and create a selection around it. Experiment by joining selections while holding the [Shift] key to add to an existing selection.

AFTER YOU'VE selected the region that you want visible, invert the selection using the Select > Invert command and you'll notice the rest of your image becomes active.

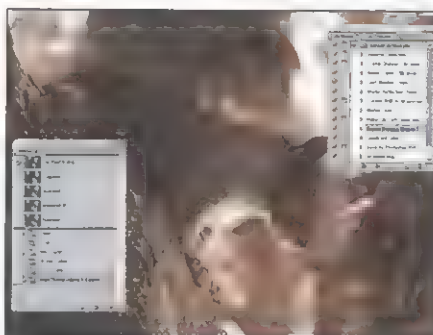
TO SOFTEN the edges of the selection choose the Select > Feather option and set this to a relatively high value, such as 20 pixels, depending on the size and resolution of your image.

FINALLY, fill the selection with your preferred colour to paint over the edges of your image and create the final vignette. For more creative results try creating multiple borders and adjusting their opacities.

Action replay

The Actions palette can save time in creating not only frames, but many other tasks too

Throughout this chapter we've looked at various image enhancement techniques. Many of these can be carried out in one go within Photoshop using single-click actions. The Actions palette contains a number of such routines, which are basically a sequence of operations that are applied to your work. If you run one and check out the History palette you'll see exactly how the process was created. You can also record your own actions, which can save time if you find yourself repeating the same processes.



Just one of the default Photoshop actions allows colour images to be converted to adopt sepia toning effects at the click of a button

Access these options via the handy shortcut icons available at the foot of the Actions palette.



FreePhotoshop.com

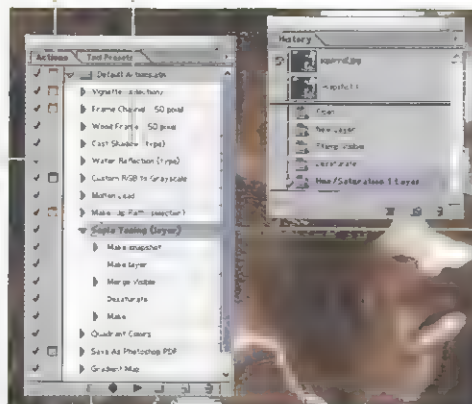
If the default Photoshop actions have given you a taste of what is possible through the automated routines, you might want to download further actions to enhance the basic options available. Sites such as www.freephotoshop.com provide plenty of freely downloadable extensions to expand your actions arsenal.

THE ACTIONS PALETTE

The Actions palette is grouped together with the History and Tool Presets palettes. If none are currently available you can access them via the Window menu.

The left-hand gutter contains options for toggling individual processes or any reliant dialogue boxes, which can help further modify existing actions.

The shortcut icons contain the usual options for creating and deleting actions, as well as Stop, Play and Record buttons for creating your own sequences.



Individual actions are listed, allowing you to select one and run the processes involved by clicking the Play button found within the shortcut icons.

Once an action has been performed you can get some indication from the History palette of what was necessary to carry it out.

Each action comprises a number of steps designed to achieve a particular result. Expanding the arrow heads allows access to modify these if necessary.

FIXING AND RESTORING IMAGES

Restoring old photos to their former glory is more about recreation than retouching. You can get rid of tears and scratches and replace entire sections of an image lost over time

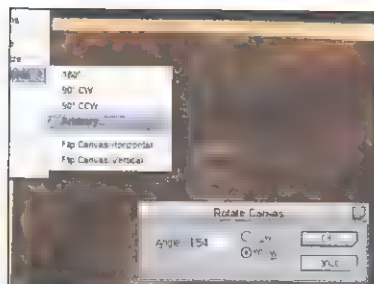
Now that we've considered many of the more common retouching techniques and tools, it's time we started looking at some more specific options for restoring images. Although photo restoration is usually synonymous with old, faded Victorian snapshots, many of the techniques we'll be looking at can be applied to more contemporary images, which you may have scanned but which may not have been properly stored or cared for.

If the negatives have been lost then the only source that can be restored is the image itself. Photographs retain an incredible emotional value to many people because they act as

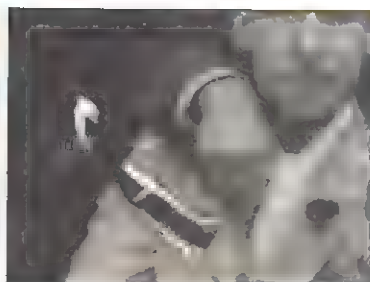
links to the past or to loved ones who may no longer be with them. They're also subject to the ravages of time, as they are constantly flicked through or passed around.

Revising history

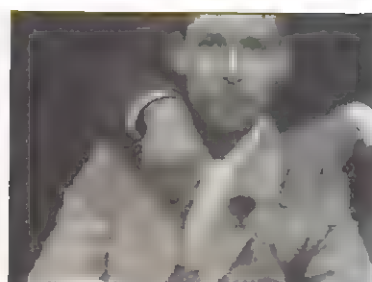
With your knowledge so far of retouching images you are already in a position to take your cherished photos and bring back some of the detail that has become faded over time. You may even be able to balance out images to reveal content that was indistinguishable when the original photograph was printed, as we experienced when adjusting the light and colour balances through



Page 68 Crop and straighten images to get the restoration process underway



Page 69 Use the Clone Stamp to get rid of scratches and other marks



Page 71 Tidy things up further using the Healing Brush with the Clone Stamp



Page 72 Correct the colour balance of antique photographs to repair fading



Page 73 Remove stains using various methods, including the Patch tool



Page 74 Add tints to contemporary images to create an air of nostalgia

the Levels and Curves options for example. However, in the most extreme cases you may find that these retouching techniques can only go so far to resolving more serious problems such as rips, tears or even huge chunks of an image that may have been lost.

Back to scratch

In such cases you'll need to attempt to recreate sections of an image using other areas or even other photographs of the same subject entirely from scratch. We'll be looking more into recreating larger aspects of an image in the next chapter as we head towards a

complete walkthrough in chapter 9 which deals with the restoration of a particularly neglected image.

But for the time being we'll take things slowly as we turn our attentions away from retouching and more towards restoring old images. Many of the techniques which we've already covered are still relevant here, although they might require a different approach depending on the condition of the image you are restoring. However, once you've mastered the basics you'll be in an ideal position to move on to more advanced areas such as rebuilding images, which we'll be looking at in the next chapter.

Initial fixes

Before you take on the task of cleaning up an old image, let's get a few things straight...



Safety backups

Always carry out your restoration work on a duplicate image. You may need to refer back to the original as you progress.

One of the most common problems with old images is simple wear and tear. Whether a photo has been poorly stored or carried around in a wallet for years, the chances are there will be some physical damage to the edges.

Fortunately, such regions are generally superfluous to the main content of the picture, so cropping off problem areas can quickly and easily solve the problem. But before we get carried away with such destructive changes, take a moment to make sure the alignment of the

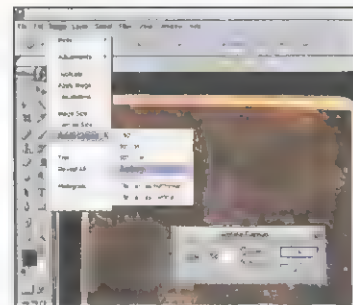
image is correct. Many older images were processed en masse and, because of this, the content of the photograph may not actually be lined up with the edges of the print. Should this be the case you'll need to straighten things up before you crop, otherwise you'll find yourself shaving even more off the image to counter the necessary rotation.

The rotation itself could be carried out manually, although we've outlined a more precise method below which should take some of the guesswork out of the process.

STRAIGHTENING IMAGES

The Measure tool makes for quick, easy and precise rotation

Manual rotation of an image is often a hit-and-miss affair which involves much use of the Undo feature before a satisfactory result is achieved. However, by using the Measure tool you can simplify the process and get things straight with far more precision. With the tool selected, simply draw a line that runs parallel with a clear vertical or horizontal aspect of the image. Once the tool is in place turn to the Image > Rotate Canvas > Arbitrary option and the required rotation will be entered by default. Click OK and the entire image will be rotated enough to make the measure guideline match the horizontal or vertical axis.



Visualising the most accurate degree of rotation is impossible without the use of the Measure tool

Removing scratches

Scratches can distract the viewer's eye, but with a little patience you'll soon fix them



Open the *scratch.jpg* file from the CD and the problem instantly becomes apparent. A large scratch has appeared over the central character's jacket and part of the background. As the damage is quite severe we're going to have to recreate the area using the Clone tool, so select this using the default settings, but choosing a wet-edged brush of around 17 pixels.



With the Clone Stamp active, [Alt]-click (PC) or [Option]-click (Mac) on the background area slightly to the left of the offending mark. This has defined the sample point for the tool, so you can now paint over the scratch that covers the background. Use short strokes so as not to duplicate the scratch, and recreate the line of the jacket without edging into the main character.



Removing the scratch within the jacket area will require numerous sample points. Start with the centre of the scratch and notice the crease; it is suggested that it continues across the scratched area. Try to replicate the crease and resample areas to rebuild the area to the right. Try to recreate the lapel using samples from below while taking suggestions from the intact lapel.



Continue to recreate the more complex region over the arm, taking care to remain sympathetic towards any existing or suggested creases in the material and taking plenty of sample points. With a little patience and making ample use of the Undo feature you should get a pretty good recreation. If you need to go back a few steps, remember to use the History palette for multiple undos.



Scratch.jpg

Use the *scratch.jpg* file from the CD to continue with this walkthrough. We've isolated a section from a picture over which a prominent mark has appeared and this needs removing.



Zoom in

Some of the finer detail may not be immediately obvious, so make use of the Magnification tool and zoom in to the offending region as much as possible. This will give you a better idea of what needs to be done and greater control over the Clone Stamp tool.

Clone or Heal?

Use these powerful retouching tools in partnership to clean up your images



Selected adjustment

In more sensitive jobs, such as where high-contrast areas meet, make a selection around the area you want to affect. This will restrict the tool and reduce the likelihood of your revisions bleeding into good areas of the image.

If you ran through the previous walkthrough you'll probably have realised the power, but also the limitations, of the Clone Stamp. It may be great for recreating larger sections, but it can leave repaired areas looking a little obvious.

Fortunately, the Healing Brush is the perfect accompaniment to the tool as it uses a more subtle approach to clean up by adjusting the light and contrast of a region. Used in combination, the two tools are a powerful weapon against unwanted elements. The image



We cleaned up the larger scratch on the previous page, but we've further enhanced the image by fixing minor scratches with the Healing Brush

above shows our picture before and after we removed minor scratches and flaws with the Healing Brush.



The Color Replacement Tool

The all-new Photoshop CS sees the introduction of a new tool to further complement the Clone Stamp and Healing Brush, in the form of the Color Replacement Tool. The tool paints a colour on to the canvas while retaining the texture and shading found in the original object

WHEN TO USE WHAT

THE CLONE STAMP should be used to replicate regions that may be missing or damaged by duplicating and painting existing pixel content on to damaged areas.

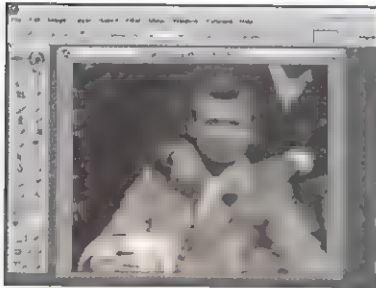
THE HEALING BRUSH is better suited to more subtle fixes, such as light scratches or flaws, which can be balanced more successfully by making adjustment to the light and texture of the problem area.

WITH MORE damaged images, use the Clone Stamp to recreate larger areas and then the Healing Brush to blend in any edges of the duplication that haven't blended as successfully as you'd hoped.

THE PATCH TOOL is closely related to the Healing Brush and allows larger regions of an image to be restored in a single action. Use this to save time when cleaning up less prominent areas of your image, such as the background and other large areas of similar texture.

Using the Clone and Heal tools

Now put the theory to practice as we continue to clean up our sample image

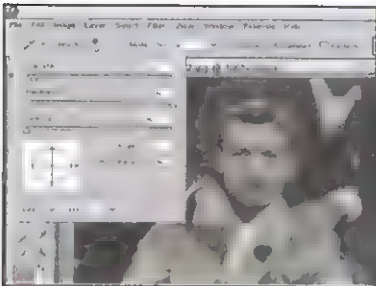


Previously, we managed to remove a prominent scratch over the arm of the main character within our image and the results are certainly much improved compared with the original. However, the Clone Stamp will inevitably create some inconsistency between original and recreated content which can be tidied up further.

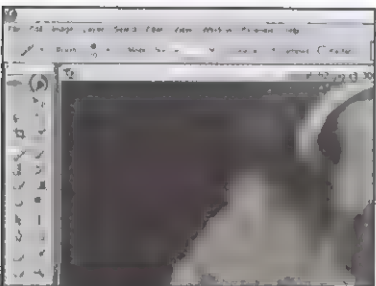


Scratch2.jpg

If you ran through the previous walkthrough on page 69 you can make use of your own results, otherwise take the scratch2.jpg file from the CD to work on.



Choose the Healing Brush and configure it to a relatively small diameter of around 10 pixels, keeping the Hardness settings at their highest. This will ensure the tool has the maximum effect on the chosen area to create the best results. Use Zoom to blow up the image around the area of the arm where we previously cleaned up the larger scratch.



Notice there is a paler region towards the top of the character's left shoulder. Sample the jacket texture and paint over the mark and Photoshop will balance out the shading using the light and texture commands from the sample. As the Healing Brush provides a more subtle effect you might want to uncheck the Aligned option within its related Options bar to maintain consistency.



Sample

A sample is a 'good' region of an image that's used as the source for the Clone Stamp and Healing Brush.

The Clone Stamp will duplicate the sample while the Healing Brush will take light and texture information from it to replace offending marks or regions.



If you now take another look at the rest of the image you'll notice plenty of other specks and scratches littering the image. Using the same process with the Healing Brush, spend a little time eradicating these. Make plenty of resamples, taking good skin areas to repair the character's face and using sympathetic samples of material to repair other areas.

Fade to grey

You can remove the yellowing apparent on older images to bring back more natural tones



One step at a time...

Don't expect the black and white conversion of your image to magically fix your photo – this is only one stage of recovering such old images and there's plenty to be done yet. There's no need to worry if things don't look overly impressive, although you should start to see some improvement to the clarity and depth of the image.

Older images from the beginning of the last century often display significant yellowing. This is not down to processing techniques used at the time, but rather the effects of time on the chemicals used and the way they have reacted with the cardboard on which the image is mounted.

Originally, such prints were black and white, so any perceived colour or tint is unintended. One of the first processes you might apply to such images is to convert them to greyscale. This should help to

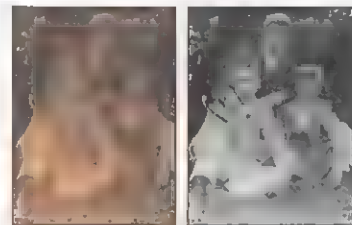
restore some of the original balance before you start to play around the with the Levels and Curves to further bring out such detail.

We've already considered the various methods of converting colour images to black and white in the previous chapter and the same principles can be applied here. Whether you decide to convert individual channels or use the Calculations method which we ran through on page 59, this should be one of the first adjustments you make to your image.

COLOUR TO GREYSCALE TO RGB

Enable calculation conversions to be reworked in RGB

Once you've made your greyscale conversion using Calculations you'll find the new document containing your adjusted image is difficult to work with using regular techniques. This is because the image is converted to Multichannel mode, which is similar to greyscale, using 256 shades of grey to compose the image. As such an image cannot be directly converted to RGB you'll need to convert it to greyscale first through the Image > Mode option before running through the process again to have access to the more flexible RGB method. Once in RGB you can continue restoring the image or convert to CMYK for printing



This before and after shot shows our picture (complete with the unrepaired scratch) after it has been converted to black and white using Calculations. Notice how the process has brought out more detail in the image

Removing stains

Having got rid of our scratches it's now time to tackle stains – which can be a little more tricky

Like scratches, stains are a relatively common occurrence with older photographs. Whether they have been caused by a chemical imbalance in the original processing, or whether a cup of coffee has been accidentally spilled over a photo, the end result is the same and needs addressing if the image is to be effectively restored.

Before you reach for the Clone Stamp or Healing Brush take a moment to understand how the stain is affecting an image. These tools may be the best option for some

situations but things can also be cleaned up using more effective methods. Take a look at the colour channels of your image, for example. It is often the case that a stain is particularly strong on one channel over another, in which case adjustment to the Channel Mixer may be a solution. All but the worst stains should be fairly straightforward to remove but remember, if they fall towards the edges of an image it is often much easier to crop the main subject or recreate the background.



Quick access

Using Photoshop's keyboard shortcuts is the key to fast working. To access the Healing Brush or Patch Tool simply hit the [J] key. If you need to access the alternate tool under the same keyboard shortcut hold down [Shift] while pressing the [J] key again to cycle through the options.

PATCHING STAINS

The Healing Brush's relation can be an effective stain remover

We've already seen how effective the Healing Brush can be on small areas, but its close relation, the Patch Tool, can offer exactly the same benefits over much larger selections. With the tool selected you only need to decide whether it will affect the source or the destination within the related Options bar before creating a selection that can be dragged either from or to a good region of your image. Using the same principles as the Healing Brush, the tool will balance the offending area with data extracted from the good area. For larger areas, such as the example here, the tool provides more consistent results with less smearing.



In this before and after example, we've used the Patch Tool to create a selection around the stain, then dragged this on to the good area of the picture to the right for the attributes to be reproduced

Hand-tinting photographs

Adding a sepia tint lends an air of nostalgia to both contemporary and antique photographs



Black and white in colour

Although the sepia tint is closely related to black and white photography, the technique is achieved using brown tones when working digitally. For this reason you'll need to convert existing greyscale images into a colour mode such as RGB or CMYK before the effect can be applied.

Although we've suggested converting your images into greyscale to optimise the contrast of the image for restoration purposes, you may choose to recreate the old sepia look once you've completed your work to bring back the antique feel of your image.

For a quick and easy method you could turn to the Actions palette, where the Sepia Toning option will provide a single-click conversion of your image. But for better control over the end result you'll need to turn to the Image > Adjustments



Sepia tints need not be restricted to older images – converting your digital snaps using the process can create the atmosphere of bygone days

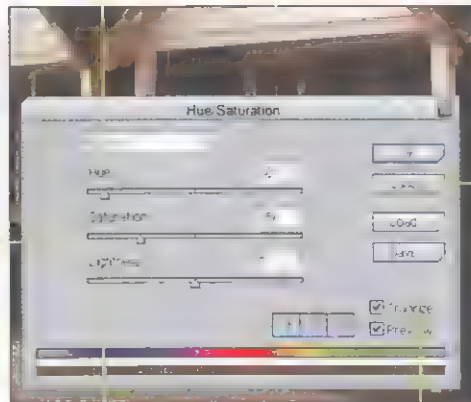
menu and use either the Channel Mixer or the Hue/Saturation controls, as we've illustrated below.

SEPIA TINTING THROUGH HUE AND SATURATION

The Hue slider allows you to choose the base colour you want to influence your image. With the Colorize option checked the current hue is displayed.

The Saturation slider determines the intensity of your chosen colour. For our selected colour the extreme ranges run from grey to a bright red, for example.

The Lightness slider adds light values to the selected colour. Between the saturation and lightness sliders a huge range of variations is possible.



Keep the Preview option checked to see how your adjustments affect the main image in real time, so you can decide whether your adjustments are satisfactory before applying the changes.

The Hue/Saturation dialogue box appears if the tool is either selected through the Image > Adjustment menu or is used to control an adjustment layer.

Use the Colorize option to add colour to an RGB image – make it look like a duotone by reducing its colour values to one hue, for example.

Toning with variations

Don't limit yourself to sepia tints – Photoshop lets you tint your image any colour you like

Tinting your work with a sepia effect is the obvious choice when applying such an effect to older images, but there's no reason why you shouldn't consider toning your images with more abstract colours if the image subject or the purpose of the photograph makes this a suitable option.

You can make use of the hue/saturation method we suggested on the previous page, or even the Channel Mixer, also found under the Image > Adjustment sub-menu, but a more visual and direct method

would be to use the Variations option. Found at the foot of the Image > Adjustment sub-menu, the Variations tool is one of the easiest to use when experimenting with colour washes, as you are presented with a number of variant images based around your chosen file.

You can then decide whether to take things further, either in terms of colour or light intensity, before applying the changes to your work – and all this through a simple point-and-click approach, without a single slider in sight!



Reset the Variations

It can be all too easy to wander down a cul-de-sac of experimentation when working with Variations. If you need to step back to the original image and start over, simply click on the Original thumbnail found towards the top-left of the interface to revert.

PROTECT YOUR WORK

With no adjustment layers possible you'll need to back up...

Although the benefits of working with Variations are quite apparent when experimenting with different colour wash effects, you should be aware that this can only be applied, as with the sepia process, to a colour image, so converting your work from greyscale to RGB, CMYK or Lab modes is essential if your original image is in a monochrome format. It's also important to realise that any changes you apply will be made directly to the pixel content, as no new or adjustment layer support is included, so make such changes to a duplicated layer to protect your work. This way you'll be able to revert easily to your original file if necessary.



Variations provide subtle toning effects which can be enhanced or reduced as you prefer

Chapter 8

REBUILDING DAMAGED PHOTOGRAPHS

If you're lucky you'll have access to an image's negatives. If you're unlucky you'll just have the photo. But if you're really unlucky you'll only have a few fragments to piece together...

The problem with many older photographs is that the flimsy piece of paper on which your typical family snapshot is mounted is nowhere near close enough to the industrial standard that's necessary to enable the treasured images to stand up to the wear and tear they suffer over the years.

And, despite our best intentions, those little strips of plastic that contain the negatives – from which we can quickly and easily recreate our cherished images in mint condition – are more often than not lost somewhere along the line. This leaves behind only the faded and creased photograph stuffed into an

old shoebox under the stairs from which a valuable piece of history must be reproduced.

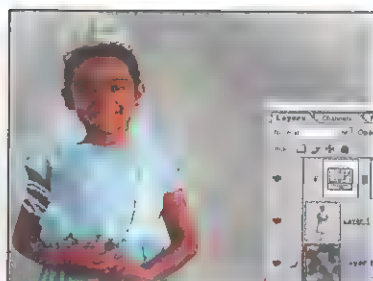
Creative correction

The techniques we've covered so far will go some way to restoring your images to their former glory, but for more extreme instances of damage we will have to turn to our creative side to rebuild images from which entire sections may be missing.

In these circumstances it becomes important to get some kind of context for your subject. Although the negatives may not be available, you may be able to get hold of other useful photographs. In the case of a



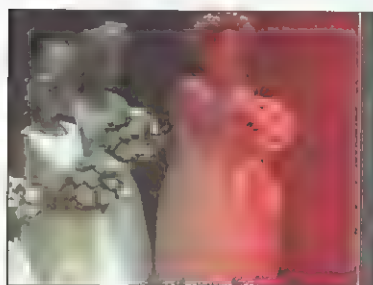
Page 78 In some cases you may want to create a new background from scratch



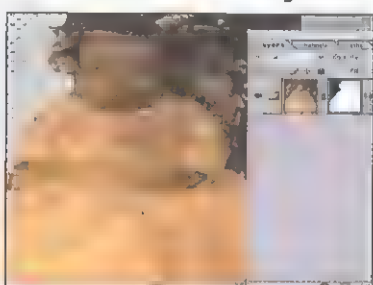
Page 79 Contemporary photographs can also benefit from new backgrounds



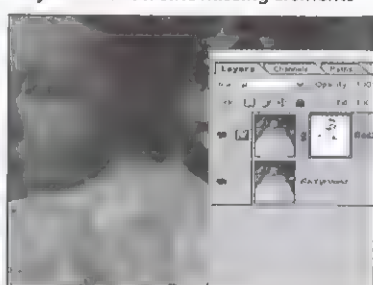
Page 80 In more extreme cases you may need to recreate missing elements



Page 81 Localised colour problems require a little more consideration



Page 82 Understanding masks will help you to make more selective adjustments



Page 83 Discover the benefits behind masks with a practical demonstration

portrait, for example, if you can obtain another picture of the subject it might give you some idea of how their hair would have been styled, which you can use as a reference as you attempt to recreate any missing or badly damaged sections.

Tricks of the trade

In more extreme cases you'll need to get creative when reconstructing the image, and you'll need to use your discretion – for instance, in deciding whether a seriously damaged background is worth rescuing or whether isolating the main subject and recreating the backdrop from scratch is a better option. With these

considerations in mind we'll be looking at recreating backgrounds and adding new textures to images, as well as rebuilding portraits from original photographs that even the owners may have considered beyond repair. As well as adding content we'll be looking at the benefits provided by the use of masks throughout the restoration process.

Ultimately, the solution to a particular problem will be dictated by the nature of the image and the extent of the damage to it, but the following pages should certainly give you some food for thought as you start applying your new skills to your own precious photos.

Recreating backgrounds

If the backdrop to an image is badly damaged, then it may be worth rebuilding it from scratch



History lesson

If you study old Victorian images you'll find many common features in the backgrounds. Subjects would have had to pose for an extended amount of time as the image was captured, so most shots were based in the studio or against simple backdrops.

Some images may be so badly damaged that it appears little can be salvaged. In such cases you may be advised to remove the foreground subject from its setting and recreate a background yourself.

The process involves masking the main subject from the background into its own layer. Having done this you can then concentrate all your efforts on attempting to restore the subject on its own.

Once this has been achieved you can recreate the background, using any suggestions the original image



The original image might be beyond rescue, but the subject can be saved by isolating him and rebuilding the background

might contain. In the example above we added a simple radial gradient to an underlying layer.

CONSIDERING BACKGROUNDS

The background was recreated on a new lower layer by simply applying a black to grey radial filter emanating from the centre of the canvas.

The subject was separated from the background by using the more flexible Selection options available through Quick Mask mode.

To blend the subject into the background as the original might have been, the torso was feathered into the background.



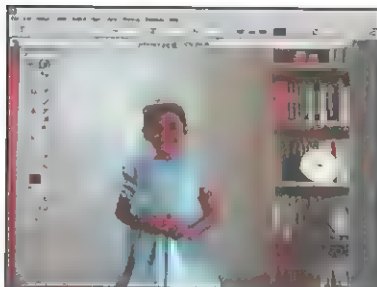
When we were happy with the background and subject we applied the Sepia Action to the image to further camouflage the poor quality.

Level adjustment was attempted by matching white points within the subject. It was just possible to tell that the character was a sailor, so the white collar was referenced as white.

Plenty of Healing Brush and Patch Tool work was necessary to try and even out the mottling and scratches that the original image suffered from.

Creating textured backgrounds

Isolating a subject from its background doesn't have to be the preserve of a restoration job...



Open the **princess.jpg** file from the CD for an image in which the subject would be better shown off against a less cluttered backdrop. The original image is a snapshot of a little girl before a fancy dress party, but the composition would be more effective against a studio backdrop. We can do this by extracting the girl and placing her against a background created from scratch in Photoshop.



Princess.jpg

Use the **princess.jpg** file from the CD to continue with this walkthrough as we isolate Princess Poppy from her existing background and put her against something a little more appropriate.

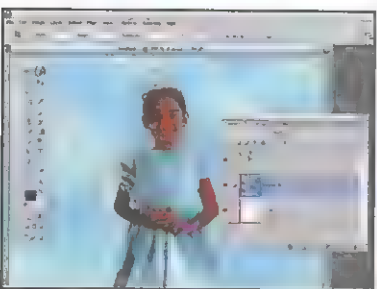


There are various methods of making the selection, but one of the most reliable over such a large and complex shape is to make use of masks. From the toolbar, toggle over into Quick Mask mode using the icons below the Color Picker and paint over the subject, taking care to knock out areas such as within the tiara and the gaps between the arms and the body.



Zoom Tool

You will get the best results if you magnify the image considerably so you can create the mask with pixel-perfect precision. To move the canvas around at such a magnified rate hold down the [Space Bar] to access the Move tool and release to return to the previously selected tool.



Return to Standard Mode and you'll find your mask has become a regular selection marked by the 'marching ants' around the subject. Copy and paste that selection into a new file and expand the canvas size to add some space around the subject. You are now free to create or import a texture into the blank background layer of the new file to complete the effect.



With such a clean extraction from the original image achieved by masking the subject, it becomes possible to position characters against virtually any backdrop. In this case we've recreated a generic mottled studio backdrop by simply choosing complimentary colours and making use of the Filter > Render > Clouds option.

Rebuilding a portrait

In some cases you may have to recreate parts of the image to replace missing elements



www.artphotog.com

Georgia-based photographer Art Johnson specialises in the restoration and retouching of older images. Check out his site for some examples of his work and you'll see the kind of results the professionals can achieve.

A worse case scenario with any restoration job is when the image is so badly damaged that complete sections are missing. In these circumstances no amount of cloning or healing will bring back missing elements, although you may be able to rescue and re-use certain features depending on the composition of the image and the scale of the damage.

As before, if you have access to other pictures of a person featured in a damaged photo you may be able to lift detail from there, although this

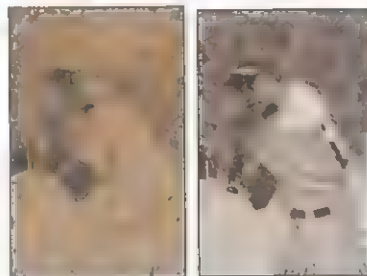
depends on the composition of the replacement image. Such additional assets will, however, give you some idea of how the subject looked.

But if such additional material isn't available then you'll have to use your own judgement. If your artistic skills aren't quite up to the task then you might want to consider recreating the composition with a model posing in the same position. This will allow you to understand the body shape and will act as a starting point for more painstaking manual correction.

GETTING CREATIVE

Adding new content to help restore a damaged image

The picture shown here would ordinarily be considered beyond repair, but US-based photographer Art Johnson has made an excellent job not only of balancing some of the most faded colours but also of recreating content that had long disappeared. Art has meticulously recreated the fabric pattern by hand, using his knowledge of the sportswear of the time. He's also blended in the top of the baseball bat, which is totally missing from the original image, by importing the detail from another picture. The background has been cleaned up dramatically, and additional details such as the cap motif and back number have been added.



Art Johnson's excellent restoration of this extremely distressed photograph illustrates how imported assets can help to rescue an image

Repairing light damage

Rectify damage caused by light and recreate colour balance using the Channels Palette

This image is a typical snapshot suffering from light leakage, which can be experienced on older film cameras or if the camera casing is opened before the film has fully rewound. Unlike overall colour balancing this problem is more localised, bleeding into the main image. Fortunately, as the offending colour is one of the primary colours we can turn to the Channels palette.

Clearly the problem is most apparent on the red channel, while the green and blue channels are relatively clear. By duplicating one



These before and after pictures show how well we were able to repair the damage to this photograph using the colour channels



Quick Masks

Photoshop gives you the option to work with Quick Masks, which are ideal for working with channels. Select the option from beneath the Colour Options on the Toolbar or hit the [Q] key to enter the mode.

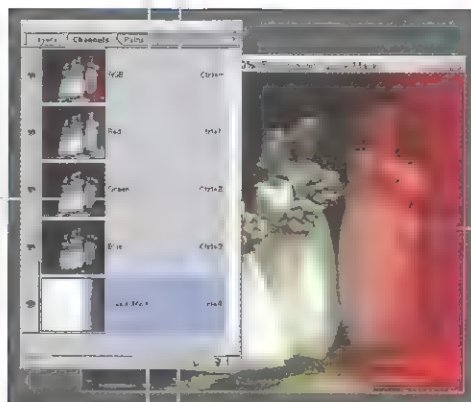
of the better channels and applying this through a mask you can achieve more specific colour balancing.

BALANCING CHANNELS

The layer channel is headed by the composite RGB channel, which merges the contents of the subsequent individual colour channels.

The green channel shows little sign of the problem, making this a good choice to use when finding new content to replace the problem area.

Copying the green channel and applying that over the red with the mask applied will even out the content of the channel to balance the problem colour.



The red channel clearly displays the problem area in the form of a pale gradient effect, which indicates higher colour content.

The scale of the problem can clearly be seen here. The only alternative to balancing the colours would have been to crop the problem area and lose one of the characters.

The blue channel also shows little sign of the problem, although the detail here for the overall image isn't quite as convincing as the green channel.

Mastering masks

Save time and effort and get better results by making use of masks to fix uneven textures



Creating masks

The simplest method of creating a mask is to make use of the shortcut icons at the foot of the Layer palette. There are options available from the Layer menu, but the palette approach is more conducive to the workflow. Related Quick Masks can be created from the toolbar, although these cannot be saved, other than as selections when you return to regular editing mode.

We've made passing mention of masks throughout this guide, but they still tend to be the reserve of the more experienced Photoshopper. The concept isn't difficult to understand, and once you realise exactly how it can improve your workflow you'll wonder how you managed without masks.

We'll go through a repair job using masks in detail on the next page, but the basic idea is that we make a duplicate of an image which is cleaned up using the regular Dust and Scratches Filter before matching

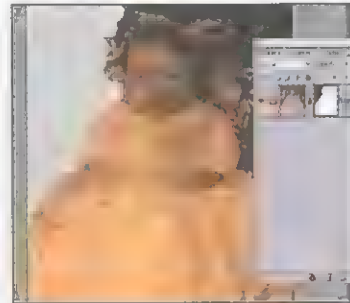
elements of the old and new to keep detail while adding clarity. A key advantage of the method is that by isolating problem areas we can make more selective adjustments without affecting regions of an image that may be of better quality, but from which we might lose detail if filters were applied to the entire image.

Unlike regular selection methods, however, masks allow regions to be chosen with varying degrees of opacity. This gives us the ability to focus our restoration work on the more problematic areas.

THE PRINCIPLE

Treating greyscale as light to understand the logic behind masks

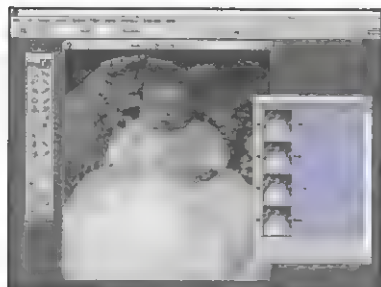
When a mask is created a linked thumbnail is visible in the Layer palette. By default this will be filled with white to make the image layer completely visible, but if you select the mask layer and paint over this in black you'll notice regions of your image disappearing. Masks work on the greyscale principle, with black and white at the extreme range of visibility, but the 254 shades of grey that are supported in between allow varying degrees of opacity to be selected. Using this method you can create cleaner, smoother edges around complex shapes, such as individual strands of hair, that would be painstaking to replicate using regular selection methods.



Areas painted black on a mask layer are rendered transparent, making this a great method of isolating content

Merging with masks

Sometimes it's easier to embrace destructive methods of restoration rather than avoid them



1 Open the *baby.jpg* file from the CD for an image that we've already done some preparation work on. The original suffered from a brownish colour cast caused by aging, which we fixed by calculating the channels before applying some modest Levels adjustment to balance the light range of the image. There's still quite a bit of noticeable scratching that could be removed, however.



2 Zoom in on the image and make quick use of the Healing Brush and Patch Tool over the more prominent black marks within the image. Then, duplicate the background to create a copy and choose the Filter > Noise > Dust and Scratches Filter, setting this to a radius of 2 pixels and a threshold of 0, and you'll notice that your image becomes almost painted out.



3 OK the filter and create a new mask layer on the filtered layer. Activate the mask and choose a Wet Edges brush – if you have a graphics tablet it's worth activating the airbrush feature from the Options palette. Using a mid-tone colour, paint over areas of the image such as the facial features which have become obscured to bring back suggestions of the original image's clarity.



4 The technique may take some experimentation, but you should start to see the detail of the original image coming through, while less important areas benefit from less obvious scratching thanks to the Filter results. Depending on the condition of your image you may also choose to reduce the opacity of the upper layer to bring through further suggestions of the original clarity.



Baby.jpg

Use the *baby.jpg* file from the CD to complete this walkthrough. The image suffers from blotching and scratches that would take hours of cloning and healing to fix, but using masks we can accomplish similar results in a fraction of the time.



Over the threshold

When adjusting noise balance, the Threshold slider determines how different the pixels' values should be before they are eliminated. By dragging the slider left to 0 and turning off the value, all the pixels in the selection are therefore examined.

Chapter 9

RESTORING AN ANTIQUE PHOTOGRAPH

In this chapter...

- Identifying problems with antique images
- Examining detail and colour images
- Removing scratches and dusting
- Getting up to speed on retouching
- Removing spots

With the groundwork behind us we can now put the theory to practice as we run through the entire process necessary for us to restore a typically-damaged antique picture

There is a world of difference between the relatively simple job of retouching new images and the restoration of damaged antique photographs. With the former you have at least some idea of the composition of the subject, and the primary purpose of your work is to enhance the image to bring out more flattering details or make some minor adjustments to an image that is generally of good quality.

Photo restoration, on the other hand, needs to consider some of the more involved retouching processes, although you'll often find that these need to be adapted to rescue detail that has faded over the years. In such

instances, restoration becomes a creative process in its own right, with the original image serving more as a point of reference.

The processes

There are no hard and fast rules for restoration, as each image brings its own problems. Some may require simple adjustments to the existing light and colour balances, while others will need attention paid to cracks or chemical imbalances. Extreme damage might require a more creative touch, but the secret lies in understanding the problems ahead and planning your best approach. We've already explored



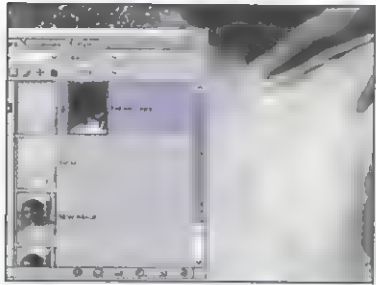
Page 86 Understand the problems inherent in the image before you start



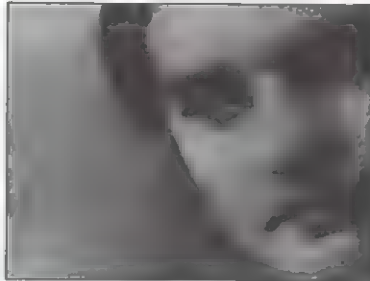
Page 87 Converting the image to greyscale will remove the colour cast



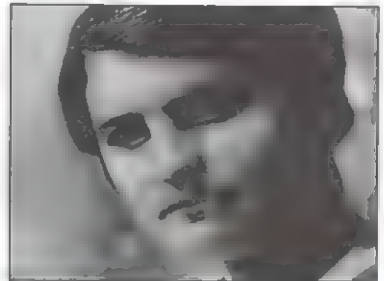
Page 88 Remove scratches with the Healing Brush and Patch Tool



Page 90 Tackle less important areas by applying filters restricted by masks



Page 91 Rescue the tonal balance from an otherwise unusable background



Page 92 Run through a few final tweaks before correcting the light balance

much of the groundwork involved in restoring images, although if you find yourself working on numerous photos then over time you're guaranteed to pick up some new tricks. With this in mind we'll be spending this chapter walking through the processes in more detail than previously as we tackle a complete restoration, taking the distressed original to see how best to bring some life back to it.

Taking things further

Naturally, we only have limited space within these pages and cannot address each and every topic you'll come across. We've deliberately

bypassed colouring antique images for example, as the subject would require a volume in its own right, but you'll find plenty of advice and tutorials on such matters regularly featured in our sister publication *Computer Arts* magazine, along with features on retouching and more general digital imaging issues.

There's also a vast amount of advice available online, although you'll need to tap into the specialist niche community; one of the best starting points is undoubtedly RetouchPro (www.retouchpro.com), from where you can access various tutorials and forum pages to address your specific queries.

Analyse the image

Understanding the problems with our image will help us decide how to approach the job

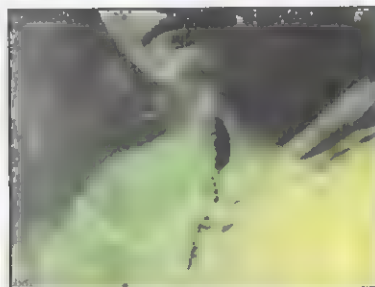


Portrait.jpg

In this chapter we will attempt to restore an image from scratch. Use the portrait.jpg file on the CD to walk through the entire process.



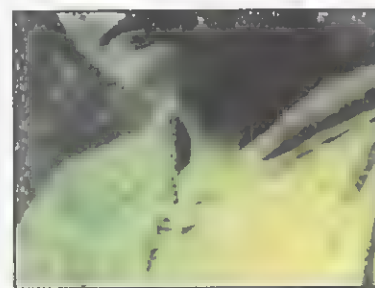
1 Open the portrait.jpg file from the CD for a typically damaged antique image. You'll immediately see the level of distress the original image suffers from, but by analysing the key problem areas before we get started we will be able to determine the most appropriate steps for cleaning the image up.



2 One of the initial problems you'll recognise is the overall discolouration of the image. The cardboard backing has influenced the image, with a chemical reaction occurring which has given the photograph a yellow cast. This should be simple enough to rectify by converting the image from its current RGB mode into greyscale.



3 Equally apparent is the amount of surface damage to the image, including numerous scratches. Fortunately, the subject is still relatively clear and we can attempt to restore her through some patience with the Healing and Clone tools. The background is also heavily affected, and it might be worth recreating such peripheral aspects rather than spending excessive time trying to fix them.



4 Additional problems also become apparent on closer inspection. The contrast is a little extreme, with shadows too intense and highlights too bright, but some adjustment to the Levels or Curves should help to balance this out. There's also some mottling visible within the subject's top that should be addressed, but this too shouldn't present too many problems.

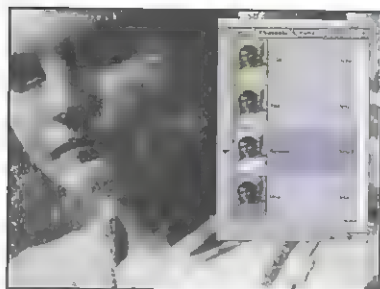


Safety first

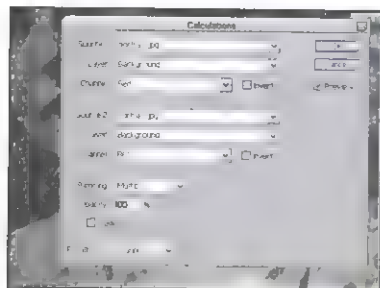
When starting out on such a restoration, always work from a duplicate of the original file. You might choose to simply duplicate the layer, but make sure you have some kind of backup which you can return to in case everything goes horribly wrong.

Lose the colour

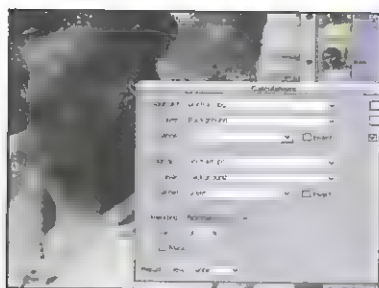
Converting the image to black and white will help resolve the colour cast in a single action



1 Before you rush to convert the image to greyscale via the Image > Mode options, take a moment to consider the colour channels. View these individually and you'll see how they provide some variation on the original image. The blue channel is a little on the dark side while the green and red improve things, but neither are really strong enough to be considered for a straight greyscale conversion.



2 However, the balance between the red and green channels makes a strong argument for using these channels as the basis for our conversion. Head to the Image menu and choose the Calculations option to display the dialogue screen for the tool. This is divided into three main areas, which allow you to choose individual channels and determine their blending relationship.



3 We needn't worry about the Source or Layer options, as our image only has a Background layer, but set the Channel options for the two sources which will be compared to the preferred red and green channels. We'll then need to specify the best blending mode – the Pinlight or Lighten options might be suitable but the levels are raised excessively, so we've stuck with the Normal mode.



4 Once you're happy with the settings don't forget to change the Result option at the foot of the dialogue box. We've opted for the New Document option before carrying out the conversion. All that's necessary now is to convert the image back to RGB mode, which you can do after changing the multichannel results to greyscale. The result is obvious from these before and after shots.



Channels in colour

When you view the colour channels individually they display by default their greyscale mask, with white regions indicating more of the channel's colour. If you prefer to see how the channels would render you can configure Photoshop to do this through the Edit > Preferences > Display & Cursors option. Checking the Color Channels in the Color option within the Display category will achieve this.



Tuning channels

As a rule of thumb, the green channel will tend to contain the most balanced data within an image. Obviously there will be exceptions, as our image shows, but if you're wanting to convert your image into greyscale from a single RGB channel then this will generally be the best option.

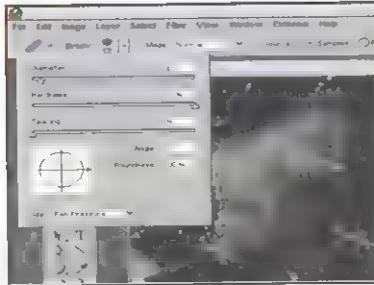
Mind the gaps

Our subject now looks a little less jaundiced, but there's still a little healing left to do...



The bigger picture

Zooming in to the image helps to achieve more accurate results when using the Healing Brush, although you may find you lose the overall context of the image. Choose the **Window > Documents > New Window** option to make another view of your image which you can scale to see how your changes affect the picture as a whole.



Don't overdo it

When you're making use of the Healing Brush with such a battered image try to recognise the difference between marks which may have appeared in the original photo, such as wisps of hair, and any blemishes the image has picked up. If too much is removed, the image can start to look illustrated and lose its photographic identity.

1 You may be tempted to head straight for the Levels or Curves controls at this point, but we'll hold back for a moment as the scratches would have too much influence on the results. Instead we need to start cleaning up the scratches and missing pixel data with the Healing Brush. Zoom in to the face and gauge the necessary brush size – we've settled on a 12 pixel diameter at 100% hardness.

2 Now comes the tedious task of cleaning up the more damaged areas by hand. Concentrate on the forehead first, taking plenty of sample points close to the damaged points to repair them, and don't forget to make use of the Undo feature if things don't quite go to plan. Here, for example, we've sampled some of the better skin above the subject's left eye to clean up the wider area.

3 We can now make use of this good area over more tricky sections, such as over the subject's right eye. This has become so badly damaged that the Healing Brush is ineffective for covering up missing pixels. What we can do in this case is make use of the Patch Tool, using the restored area above the left eye as our sample point.

4 With this relatively large area of skin cleaned up, we can use it to reference other similar areas of the face, significantly speeding up the restoration process. Don't worry about more complex areas such as the hairline just yet, as we'll address those next, but once you've completed the skin areas you should find that your subject is already looking considerably healthier.

Touching things up

Sometimes using the Healing and Patch tools feels like two steps forward, one step back...



1 With the face cleaned up using the Healing Brush and Patch Tool we can use the same methods on the hair, neck and torso. Take care to maintain the grooming in the hair and any flaws that may fall over contrasting areas by sampling comparable areas. This will help to retain the clarity of the image without the excessive blurring often generated by over-use of the retouching tools.



2 Some areas are beyond the potential of either the Healing Brush or Patch Tools such as the area around the hair parting and the extensive damage around the front of the jacket. For the hair there's nothing we can do except clone in the missing areas. Have a good idea of the hairline and style in your head before you attempt this.



3 With all the work carried out using the Healing Brush and Patch Tools you may find the tone of some areas doesn't match that of the image as a whole. In our conversion we found some paler patches exposed within the shadow on the subject's left cheek. This can be easily resolved using the Dodge or Burn tools, depending on whether the problem appears as under or over-exposure.



4 Before we continue there's the small matter of cleaning up some of the rougher edges found around our subject. These are particularly prominent towards the right of the head, with the damage blurring the distinction between the background and the subject. Tidy this up with some subtle Clone Stamp and Healing Brush work.



Clean edges

Don't worry about the background as we'll be recreating this later, but do take care around the edges of the subject to keep the distinction between it and the background as clear as possible. We'll be extracting the subject from the background, and keeping the edges clean will help to give us a more natural mask.



Soft brushes

When cloning areas that form edges, particular care must be taken to replicate any natural lines suggested by the image. If your corrections lie towards the boundaries of a subject, such as the region we recreated around the back of the head, this is often impossible. But by using a softer, wet-edged brush you'll avoid the sharper lines and get a more natural finish.

Miracle masks

More experimental changes are required using new layers, and masks are ideal for this



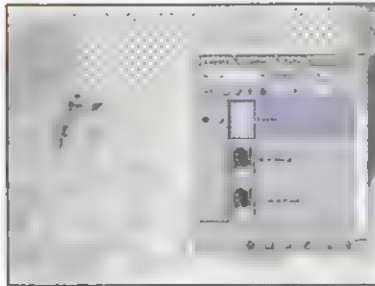
Feather to your bow

Regular selection tools, such as the Marquee or Lasso, will create a sharp distinction from the non-selected area that, on occasions, can result in too sharp a contrast. To get round this you can use the Feather option found under the Select menu to soften the edges of the selection to your preferred pixel amount.

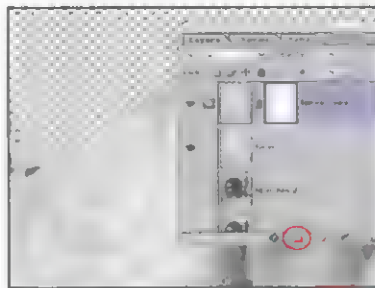


Blur or Dust?

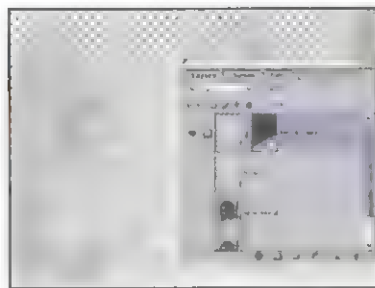
We've decided to make use of the Gaussian Blur filter to compensate for the speckling found in the torso region, but you may want to experiment with the Dust and Scratches filter found under the Filter > Noise sub-menu. This is more suited for softening sharper edges but could be the better choice, depending on your image



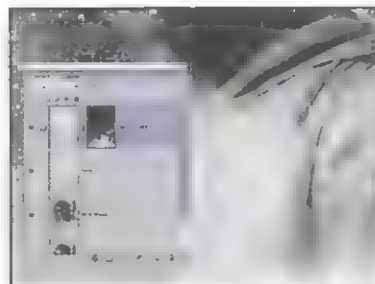
1 The torso remains on the blotchy side, but as the tonal range is much weaker here and the area is a less important part of the image, we don't have to spend as much time working on this as we did on the facial area. Create a rough selection around the problem area using the Lasso. Feather the selection by around 10 pixels and select Layer > New > Layer via Copy.



2 We'll apply a Gaussian Blur filter to make the speckling less apparent. However, if we were to simply apply this to the current selection, even with the feathering, the results would be too obvious, so we'll graduate the effect with a mask. Select the isolated torso layer, duplicate it again and attach a New Layer Mask to the top-most version through the icons at the foot of the Layer palette.



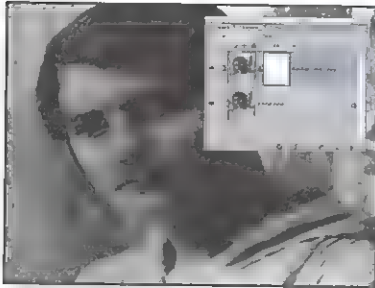
3 Hide all the layers other than the torso copy with the mask and apply the Gaussian Blur filter with a setting of 10. The results are quite extreme at present, but we'll blend them into the background through the mask. Select this and apply a linear gradient such as shown here to add gradual transparency to the layer and reveal the unaffected layer beneath.



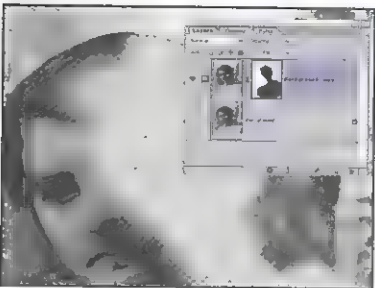
4 When put back in context with the supporting layers the effect becomes apparent. However, due to the nature of the gradient and the amount of detail available to certain areas of the original image we've opted to bring back certain areas to retain the clarity found in the original, while keeping the more problematic areas blurred.

Fixing the background

Our subject is starting to take shape, but the background is still letting down the image



1 Using the healing tools to repair the background would take quite some time and is unnecessary for such a secondary area. Instead we can fix this in one fell swoop, without taking anything away from the main subject. Flatten the image as it stands and create a duplicate of your new composite background, then attach a mask to this new layer, as we did before.



2 Hide the background for the time being and select the mask of the visible layer. Select a wet-edged brush and paint over the subject with black, effectively using the mask to erase her and isolate the background into its own layer. Take care not to stray into the background too much, although using a soft-edged brush to create a slightly blurred boundary will improve the final effect.



3 Once you've completed this, select the image thumbnail to move away from editing the mask and choose the Filter > Noise > Dust and Scratches option. Setting this to a relatively high setting will break down the existing background, removing the problem patches but retaining the general tonal range, making the new background more interesting than if we had created a regular gradient fill.



4 When the background is put back in context with the original image, which displays through the transparent area defined by the mask, the effect is quite impressive. Use the Zoom tool to skirt around the edges of the mask and tidy up any areas that may be causing excessive blurring by painting black or white on to the mask, using a smaller wet-edged brush.



Back up your work

It's advisable to regularly save your work as you progress in case you need to step back out of a problem. We've suggested in the first step here that you flatten your file – needless to say this should be carried out to a duplicate of your work just in case...



Stray pixels

If you're using a soft-edged brush to remove the subject take care to remove all the pixel content, as the method will often leave stray pixels that are difficult to make out against the transparency grid. You could use the Lasso tool to select inside the area and hit delete but this too has its limitations. A better idea is to create a temporary layer beneath the one being affected and fill this with a contrasting colour, so any stray pixels will become immediately apparent.

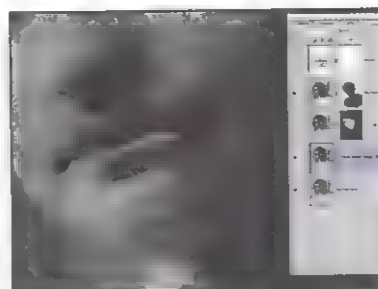
Finishing touches

With our image starting to take shape, we can spend a little time cleaning up further elements



Mask opacity

If you feel your mask is applying too strong an effect with the Dust and Scratches Filter, giving the photograph a more illustrated appearance, you can try to either recreate the effect using less tolerance or simply reduce the opacity levels of the mask via the Layer palette, with the mask thumbnail selected.



Refer to the original

Restoring an image like this can take quite some time, so you'd be advised to keep referring to the original image and try to keep things as consistent as possible. If you fail to do this you risk losing the feel of the original and the restoration can, at worst, feel like an illustrated caricature.



1 Using a similar masking principle to the one we used with the background, we can balance out some of the blotchiness of the skin. Here we've duplicated the background and masked off everything other than the facial region. We then applied a subtler render of the Dust and Scratches Filter, and brought out the detail of the eyes, nose and mouth by painting out appropriate sections of the mask.

2 If you turn your attention to the mouth it becomes apparent that some detail is lost in the shadow to the right, resulting in a lopsided expression. Fortunately the left-hand side is of good quality, so by duplicating this, flipping the horizontal axis and experimenting with rotation and perspective a reasonable match is possible. Blend in the new element using the Clone and Healing Brush tools.

3 If you refer to the original image you may notice other anomalies that have either been overlooked or created through the various processes the image has been subjected to. In this instance we've noticed the skin tones have become flattened through the healing process. We can bring these back by painting in light using the Dodge Tool, as we have here to emphasise the cheeks and nose.

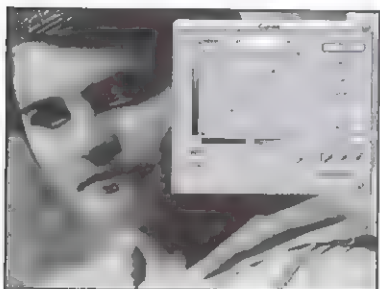
4 Another feature that's looking a little unnatural is the hairline. As there is a mask separating the subject from the background this is looking a little too clipped. The original image contains a number of stray hairs which we can paint back into the image to create a more natural finish. Scroll through the list of brushes available to find something to suit the purpose.

Balancing light

As most of the flaws have been removed, we can now adjust the levels with confidence



1 Rolling the mouse around the image with the Info palette visible shows the image has a good contrast of white points and intense shadows. However, the midtones are a little on the low side, as can be gauged from the subject's skin tones. To balance this, create a new levels adjustment layer and drag the central slider to the left until you strike a more natural balance.



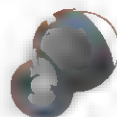
2 Some subtle enhancement of the curves to emphasise the contrast may also help, but the process is sure to bring out some undesirable aspects of the image that were lost before, such as increasing the blotchiness of the skin and highlighting a few more speckles that may have been overlooked at their reduced levels. You can fix these using methods that will be familiar to you by now.



3 After a little more cleaning up with the Healing Brush your image should look pretty impressive. With any image there are always going to be problem areas that need addressing; in this example we've discovered the skin tones to be a little problematic, with highlights becoming washed out, but we managed to rectify this somewhat with the Dodge and Burn tools.



4 The real test, however, comes when you compare the final image with the original. We could run the restored image through the Sepia Action to further camouflage any remaining flaws, but this would also conceal some of the finer details we've managed to rescue or recreate.



Restored.jpg

If you want to see how our restored version looks in greater detail than can be shown on these pages, check out the *restored.jpg* file on the CD.



www.retouchpro.com

RetouchPRO is a great site for learning more about restoration processes than we have space for here. The tutorials and forum pages are a great point for picking up tips for fixing common problems, as well as posting specific queries which more experienced members will be more than happy to help you with. Their links page is also a great place to expand your browser's Favorites list with related sites.

CREATING THE PERFECT PORTRAIT

After looking at restoration techniques in such detail, returning to more common retouching methods becomes a walk in the park – so let's have a go at a modern-day makeover...

Many of the restoration processes we've covered over the previous chapters are more extreme uses of techniques which we can apply to get the most out of contemporary photographs, so if you've worked through the guide thus far you should find many of the techniques covered in the following pages relatively straightforward.

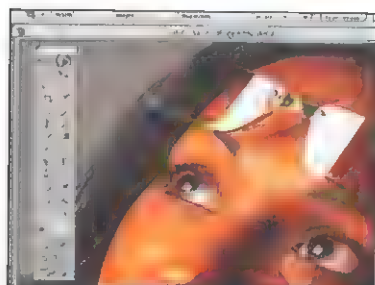
Whereas photographic restoration is aimed at recreating an image in an attempt to bring back detail that has been lost, retouching is used to make more subtle changes to what should already be a high-quality image. The portraits you'll find on the cover of glossy magazines, for example, will

be shot under the most professional conditions, with lighting and other factors painstakingly adjusted to produce the ultimate shot.

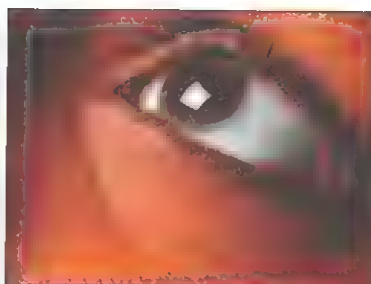
Too perfect

In fact, such shots are often too perfect, revealing details which may detract from the appearance of the subject. Even the most beautiful model will have their off days, with skin blemishes such as spots, scars or bags under the eyes visible. But if a shot is to be used for a magazine cover such human frailties will need to be covered up.

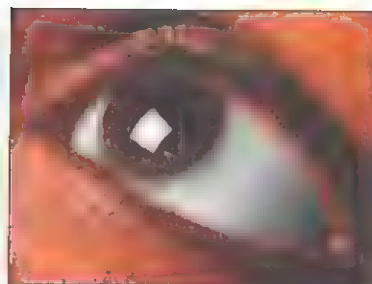
Removing blemishes is one of the basic tasks to which retouching work



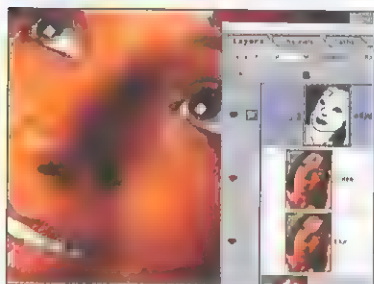
Page 96 Get to know the sequence in which retouching should be carried out



Page 98 Brighter eyes and teeth will make for a more striking image



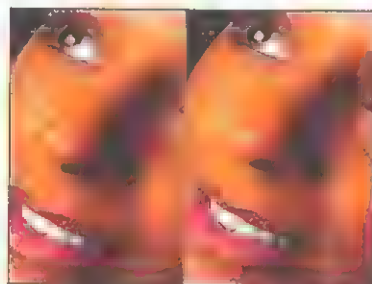
Page 99 Cleaning up the eyelashes can help to enhance the eyes



Page 100 Soften the skin tones with a balance of extreme definition and masks



Page 101 Changing the original make-up is a simple operation



Page 102 Rebuilding facial features doesn't have to be a daunting task

lends itself, although on occasions more radical techniques might need to be employed. For example, the model's hair or eye colour may need changing to suit a particular colour theme while even more extreme remodelling might be called for if the camera angle emphasises certain facial features, in which case reshaping may be required to create the perfect cover shot.

Fixing faces

The following pages will take in some of the more commonly-used retouching techniques as we look at fixing such facial issues to bring out the beauty of an image and lose any

distracting features that might ordinarily be overlooked. In contrast to restoration work, retouching might well be considered a much easier task, as there is less cause for recreating large areas of our image.

However, it should be borne in mind that whereas certain allowances can be made when judging the quality of a restored 100-year-old photograph, the idea behind retouching a new image is to achieve something close to perfection. So, although the task may appear easier it is in fact much more difficult to do well, as more subtlety is required in order to make any changes as imperceptible as possible.

The process as a whole

Sometimes it's difficult to know where to start, so having a basic sequence of steps helps

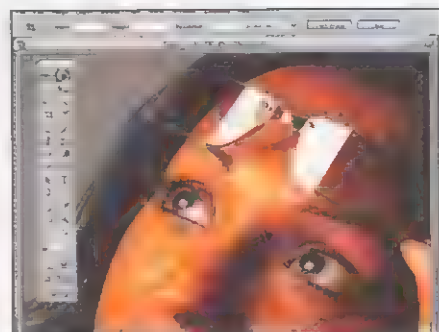


Monitor calibration

Making sure your monitor is displaying true colours will help avoid potential disasters. Turn back to chapter 3, where we considered monitor calibration in detail.

A new image can present many challenges which may not be apparent at first glance, so before you jump right in with the Healing Brush or Clone tools to clear up the more obvious blemishes, it's worth considering the bigger picture.

Making more general adjustments to the overall light and colour balance will help you to see which areas of the image are in need of the most attention and help to highlight problems which may not be initially apparent. You can then move on to the more regular retouching stages,



Take a moment to look through an image the first time you open it and some of the more obvious flaws will become apparent

which we'll look at in these pages, before clarifying and sharpening your image to get the best results.



CCD

A digital camera captures images on to a CCD, a digital sensor that is sensitive to light. This is an incredibly sensitive piece of hardware sealed within your camera that works by converting the light captured into digital data, which is subsequently converted and stored on to the memory card.

THE BASIC SEQUENCE

IMPROVING the colours, contrast and saturation must be among the first tasks. Making use of adjustment layers will help as you experiment with variations to bring out detail from the original image.

VISIBLE flaws created by the camera or scanner can then be addressed – even the best digital camera may suffer from pixel damage to its CCD.

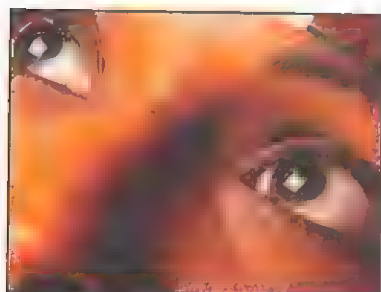
ADDRESSING flaws on the subject is the next process as you remove blemishes from the adjusted image.

ANY MORE extreme reshaping can then be carried out on the subject as you recreate pixel data to suit the purposes of the image.

THE FINAL stage is to take care of any focal aspects of the image, such as sharpening or blurring detail, before the completed image is saved or exported for the final process.

Removing blemishes

Some of the most basic retouching techniques can be used to take years off a subject

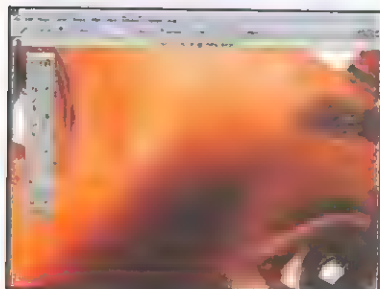


Open the *jazz.jpg* file and magnify the image to 100%. There are various flaws that need to be addressed, such as lines under the eyes and a slight crease and a small scar on the nose, plus several minor blemishes which will need removing to turn a regular image into a cover shot.



Jazz.jpg

Use the *jazz.jpg* file from the CD for an image that has come straight from the camera which, in this case, happens to be a Nikon D1X.



Dig out the Healing Brush and zoom in to the area of the forehead just above the eyes. There are a number of smaller spots on the skin which could do with being removed, so set the tool to a size that covers them, make a sample from a good region and take care of these blemishes first.



You can use the same techniques to remove the small scar on the nose, although the Patch Tool will probably get better results, both for this and for the longer crease that appears half-way down the nose. Create a selection tight around the problem area and drag this up or down slightly to a clear patch of skin, and the characteristics of this area will be copied.



Less is more

Although Photoshop is very effective at removing blemishes and wrinkles from a subject, you need to be careful as to the extent of your retouching. Removing certain markings, such as smile lines around the mouth, would change the entire appearance of a character. You might choose to minimise the appearance of such features, but getting rid of them completely could result in an unnatural look.



Using a combination of the same methods you can now continue to remove any further blemishes around the mouth and under the eyes. Keep checking the image at full size or open a new window of your work via **Window > Documents > New Window**, so you can see how your changes are affecting the image as a whole.

Eyes and teeth

Adjusting paler areas which have subtle colour balances can make all the difference

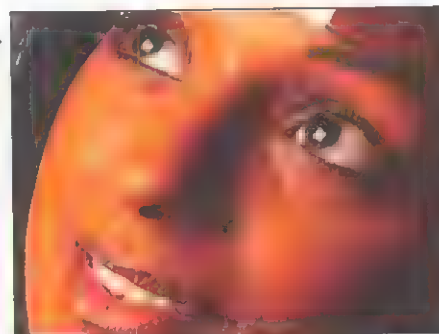


Eye colour

In a similar way to how we've enhanced the natural eye colour, we could group a Hue and Saturation adjustment layer to the mask and check the Colorize option within the dialogue box. Dragging the Hue slider would then apply different eye colours to the image if this was required.

There are various factors to consider when cleaning up the eyes and teeth in a portrait shot. Keeping the white bright is a delicate task which can enhance an image in a subtle way to make a huge difference.

One method of achieving this is to create a layer above the image and paint white over the relevant areas, after setting the layer's blending mode to Hue. This influences the content below, so such subtleties are retained even though the colour is adjusted. We've also made some



The whites in the eyes and teeth of the original image aren't quite as bright as we'd like them, but subtle changes can have a dramatic effect

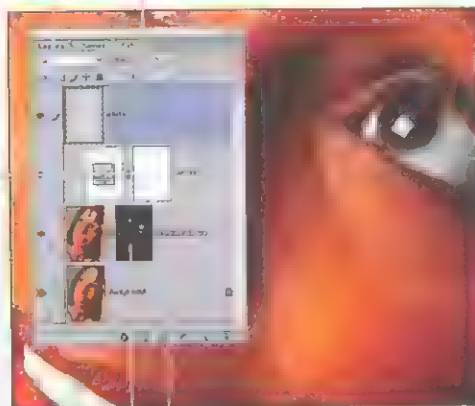
changes to the eyes by masking the area within a duplicated layer and clipping an adjustment layer.

A BRIGHTER SMILE

This whitening layer had its blending mode changed to Hue so the colour content influences that below without damaging the subtleties of the original.

The Curves adjustment layer was grouped to the layer via the Layer menu, so the changes didn't continue to affect the overall image.

The image was then duplicated and masked, so the pupils became isolated and able to be specifically adjusted by the Curves adjustment layer above it.



A new layer was created above our image, on which we simply painted white over the teeth and the whites of the eyes.

Any veins that were apparent in the original image had to be removed by making subtle use of the Healing brush.

We've protected the original image on its own layer, so we can revert or take pixel content back if necessary without too many problems.

Flutter those lashes

Enhancing the eyelashes is another good way of drawing attention to the eyes

As the camera will capture flaws within the skin, so too will inconsistencies within areas such as the hair and eyelashes be recorded. Often this might not present any problems, although the angle our sample image was taken at accentuates the length of the eyelashes to the model's right eye, while those on the left remain somewhat subdued in comparison.

You may also find poorly-applied mascara has clumped lashes together and we can address this in a number of ways. The simplest approach is to

first clean things up by trimming the existing lashes and then making use of the Brush tool to recreate convincing alternatives.

A longer, more perfectionist method that gives you more control over the finished appearance is to zoom right in to the image and create a single lash using paths, which can be replicated, positioned and manipulated before application. The advantage of using duplicated paths to achieve this is that they can be freely modified without any pixelation or loss of quality.



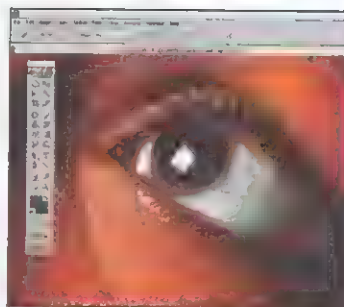
Removing lashes

To remove the existing lashes you'll achieve good results using a combination of the Clone Stamp and Healing Brush. Don't worry about getting a perfect removal as you'll be covering over the area with the new lashes, but obviously the better the removal job the more natural the new lashes will look.

TAKE YOUR TABLETS

Much more control is possible if you use a graphics tablet

You wouldn't draw on paper with your hand grasped fist-like around a pencil, so why should it be any different when drawing on the computer? The mouse has become the most frequently used input method after the keyboard, but as a drawing tool it's rather limited. A graphics tablet has many benefits, most obviously that you draw with a pen. Pressure sensitivity lets you apply varying levels of intensity within a single stroke, while tablet users enjoy various other benefits when using Photoshop, including the ability to emulate the airbrush when tilting the pen on the tablet. For more information on tablets check out the Wacom website.



Zoom into the image and you'll notice how some of the lashes have been clumped together by mascara

www.wacom.com

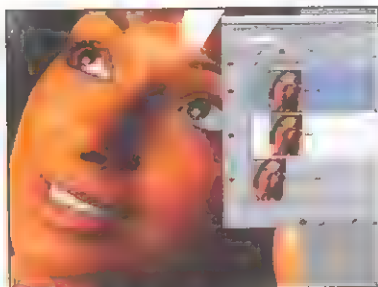
Smoothing the skin

A touch of soft focus applied to the skin will help smooth out the textures and balances



Jazz2.jpg

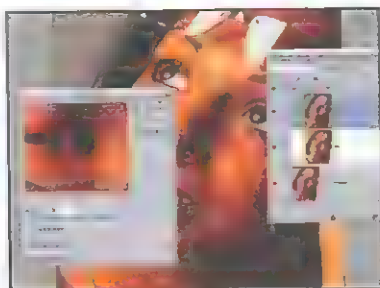
Use the jazz2.jpg file to continue with this walkthrough. We've already made previous adjustments to this version to cover the eyes, teeth and more prominent skin blemishes.



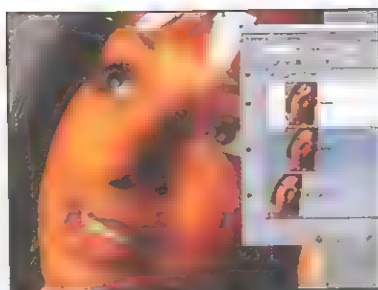
Open the jazz2.jpg file and create a new layer set, and into this place two duplicates of the original image. Name the layer set Adjustments and the duplicate layers Noise and Blur to indicate the effects we'll apply on these new layers. Choose the upper duplicated layer first, which should be the one named Noise.



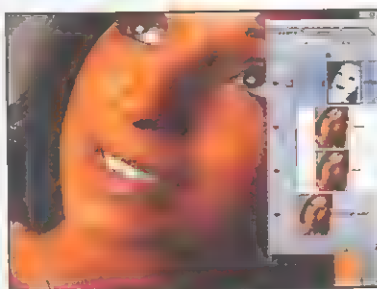
Head over to the Filter Menu and choose the Noise > Add Noise option, setting the amount to around 5%. Choose the Gaussian option for Distribution and check the Monochromatic option. This will distress the image considerably, but OK the changes and hide the layer for the moment before selecting the Blur layer to continue.



Choose the Dust and Scratches Filter, this time setting both the Radius and Threshold to 9, before clicking OK and applying the Gaussian blur filter to a setting of 20. Then bring back the Noise layer and reduce the Opacity levels of both the Noise and Blur layers until the image gains the appearance of a softer focus, paying particular attention to the skin tones.



You can now select the adjustments layer set and attach a mask directly to the folder. Then, using a black brush, paint back regions of the original background layer by masking out detail from the affected layers, such as around the eyes and mouth, and you'll be left with a softer skin texture while the finer details retain their clarity.



Speed painting

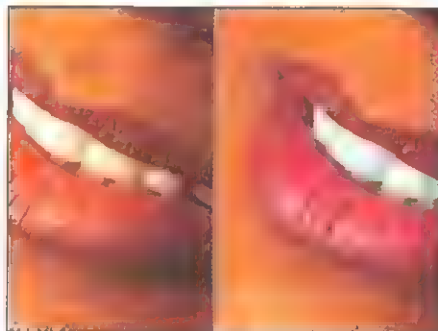
If you need to paint out large areas of the mask, make use of the Lasso tool to make the selection before filling this with black. This way you can be sure you don't miss areas. It might also help to view just the mask in its pure greyscale format – hold the [Alt] key (PC) or the [Option] key (Mac) while clicking the thumbnail mask to do this and repeat the process to return to normal mode.

Applying make-up

Digital make-up can enhance existing detail, or completely change the model's appearance

We could dedicate an entire chapter to make-up, as the methods used can be adapted to suit different facial areas or effects you're trying to achieve, but the basic rule is to keep things subtle and selective, making use of masks, adjustment layers or blending modes applied to new layers.

Just as we whitened the eyes and teeth, so you can apply make-up to areas or mask areas before applying the Colorize option from the Hue/Saturation adjustment layer. We list some alternative approaches



By controlling the area affected through its related mask, the Hue/Saturation adjustment layer was used here to change the lip colour

below to give you some ideas, but you will need to experiment with your own images for the best results.



Additional adjustment layer options

Hold down the [Alt] key (PC) or the [Option] key (Mac) when selecting a new adjustment layer from the foot of the Layer palette. This will prompt a dialogue box allowing you to name the new layer, group it with the previous layer or adjust the Mode and Opacity options before the layer is created.



No clowns allowed

Many men attempting to re-touch make-up within an image will fail to understand the natural subtleties required, so it might be worth checking with your other half before applying that bright pink lipstick and pale blue eye shadow to your model!

MAKE-UP METHODS

ENTER Quick Mask mode and paint over the area you want to affect. Return to regular mode and create an adjustment layer, which will inherit the selection made and allow localised changes to be made.

THE HUE/SATURATION adjustment layer includes the Colorize option which is perfect for such a task – change the hue and then determine the saturation and lightness, using the sliders to gain the most suitable tones.

ANOTHER approach is to paint on to a new layer using blending modes to influence the main layer beneath – different modes have varying effects which are best suited to different make-up applications.

IF YOU'RE using this method you may want to create a selection before you apply the effect. This way you can be sure to apply eye shadow without going over the whites of the eyes, for example.

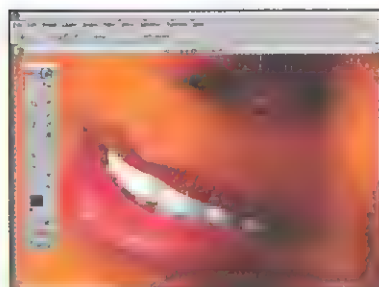
Instant collagen

Increase the thickness of your model's lips without resorting to plastic surgery...

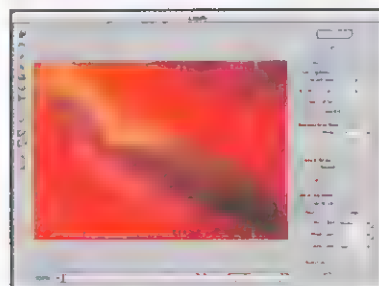


Jazz3.jpg

To continue with this walkthrough, take the jazz3.jpg file from the CD for the retouched image resulting from the various stages we've considered up to this point.



Open the jazz3.jpg file from the CD and zoom in to the mouth area. The top lip is looking a little on the thin side, partly down to the model's natural characteristics but also due to the angle at which the camera is capturing the shot. For a quick method of adding some body we'll turn to the Liquify Tool. Make a selection around the top lip, keeping a generous overlap above the edge.



Choose the Filter > Liquify option and the tool's interface is launched, with your selection imposing a mask around the relevant area. Choose a suitable brush size and keep the Brush Pressure set at 50, unless you have a graphics tablet, in which case tick the Stylus Pressure option. Change the Reconstruction Method to Smooth and leave the remaining options in their default settings.

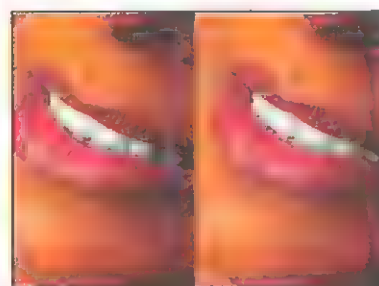


Protect the original

Such essentially destructive changes are always best carried out to a duplicate of your image. Once you've made the initial selection use the Layer > New > Layer Via Copy option. The content of the new layer will be positioned in exactly the same position as the original, meaning you can make changes and subsequently hide the adjusted layer if you need to step back to the original.



With small movements, click and drag from around midway within the top lip and move outwards to increase the width. Try to complete the task in as few movements as possible, and make sure to keep the natural shape of the lips. If things don't quite go to plan, hold down [Alt] (PC) or [Option] (Mac) and the Cancel button will convert into a Reset button, letting you revert to the original.



Once you're happy with the changes, hit the OK button and you'll notice the effect blends seamlessly into the main image, thanks to the overlapped selection which we originally included. If you've applied the effect to the original layer, make sure that you're happy with the results before continuing your work, because stepping back will become increasingly difficult.

Ears and nose

Protruding facial features require a little more planning before they can be remodelled

Making changes to more obvious facial features can be a little more complicated than the lips, but if you consider other means of adjustment then some impressive results are possible. For example, the way light is reflected often defines or enhances certain characteristics of features such as the nose, and quite often simply adjusting the way light appears can create the illusion of an entirely new shape.

Ears, on the other hand can be a little more difficult to work on, due to the intricacies of the shapes,

although they do at least have the distinct advantage of being positioned away from the focal region of a portrait. In such circumstances it is entirely possible to copy a selection on to a new layer and make manual adjustments to the size, angle or perspective for example, and then blend in any surrounding areas that may give the effect away using the Healing Brush or Clone Stamp.

The image below shows how we've subtly straightened the tip of our model's nose using this method.



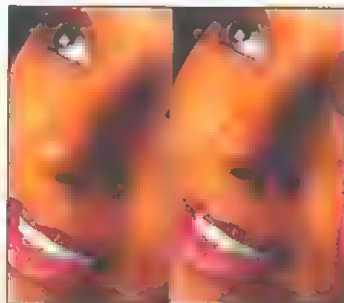
Lighting shadows

To make light adjustments you could turn to the Dodge and Burn tools, but these can be tricky to master. A more effective method is to make use of masks and adjustment layers on duplicate layers of the affected area. Blending modes will also help to apply the subtle changes which might be necessary and result in a more natural finish.

QUICK NOSE JOB

Straightening the nose through duplication

Fortunately, skin tones can be quite forgiving when blending duplicated regions. The original image on the left has a slightly upturned nose, which we've managed to correct effectively. This was done by making a selection around the tip of the nose and spreading this somewhat into the main facial skin texture. We then feathered the selection and created a new layer from the contents. This was then rotated slightly to straighten the line of the nose. Once the effect had been achieved a little blending was necessary, although smudging around the smile line and some marginal use of the Patch Tool helped create the final seamless effect.



With careful selection and duplication we can rotate the problem area with little disruption to the original image

USING THE PEN AND PATHS TO ALTER THE BODY

In this chapter...

- ☐ **Sculpt the body using Pen and paths**
- ☐ **Improve your subject's body shape**
- ☐ **Smooth out larger skin creases**
- ☐ **Balance skin tones over large areas**
- ☐ **Enhance hair colour**

There's more to retouching than merely giving somebody a facial. The rest of the body may also need a little work, and we can make subtle changes to areas such as the hair and nails

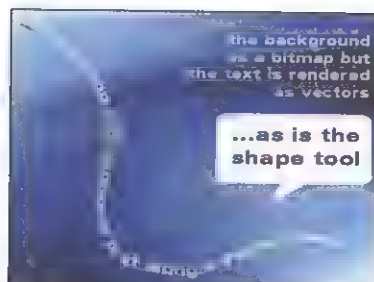
We've focused primarily on the facial features so far, as portraits are an obvious starting point for retouching, but that doesn't mean we can ignore other areas of the body. A full body shot, especially if the model is partly clothed, could look a little unnatural if only the face had been retouched.

To keep such an image consistent we need to consider the remaining skin tones and how they complement the changes we've already carried out. If they're done well the changes should be imperceptible, as the eye will naturally be drawn towards the face, but if done badly the differences will quickly become apparent, as the

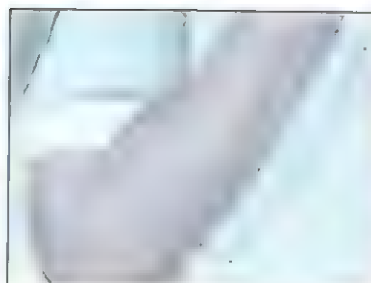
image takes on the appearance of a head which has been transposed on to another model's body.

Old and new

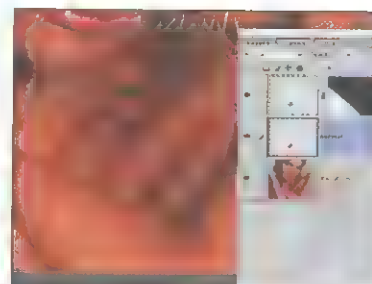
Of course, many of the techniques we've already used can be applied to these new areas with a little modification, although a few new tricks won't go amiss either. The Healing Brush and Clone Stamp will still play a pivotal role in cleaning up common blemishes or removing the occasional stray hair, while adjustment layers and blending modes are still important. However, if we want to achieve more dramatic results such as changing



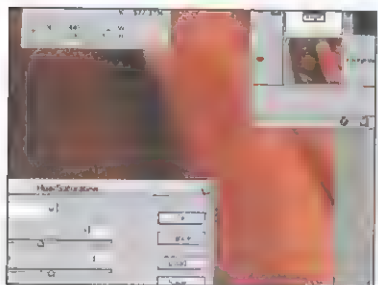
Page 106 Make precise selections over larger areas using the Pen Tool



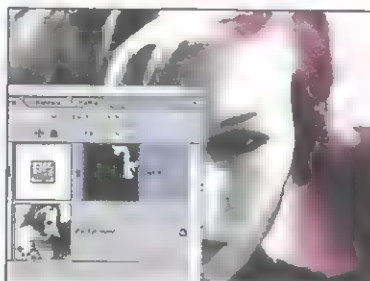
Page 107 Use paths to re-shape body parts and flatter natural curves



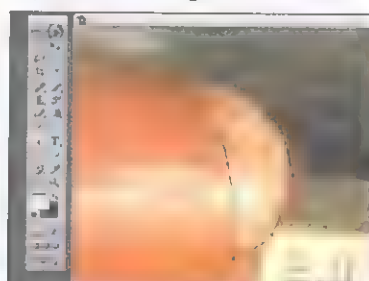
Page 108 Smooth skin creases using duplication, blending modes and masks



Page 109 Balance skin tones with masks and the Hue/Saturation controls



Page 110 Add colour to black and white images using adjustment layers



Page 111 Learn further uses for paths and masks, such as fixing broken nails

body shape or creating perfect fingernails, some experience of the Pen tool and paths will be necessary.

What's the point?

There are some who may say that making such dramatic changes to the body is an unnatural process, and that a great image should be created during the original shoot. There's certainly a case to be made for this view, although for high-profile jobs such as cover shots or advertising images it could be argued that we've come to expect a level of perfection that transcends the natural.

How far you take your retouching is entirely up to you. You may feel

that the removal of the odd blemish, a little smoothing of a few wrinkles and some colour balancing will do the trick, or you may get caught by the retouching bug and go much further in your efforts to create the perfect image.

Either way, there are no rights or wrongs and the best results can generally be gauged by the mood and composition of the shot. A model shot taken in the studio, for example, may require a perfect finish, while the same model on location might benefit from a more natural look. Just try to keep things in context and you'll soon discover how far to take your work.

The Pen Tool and paths

For natural-looking curves over larger areas some illustration techniques must be used

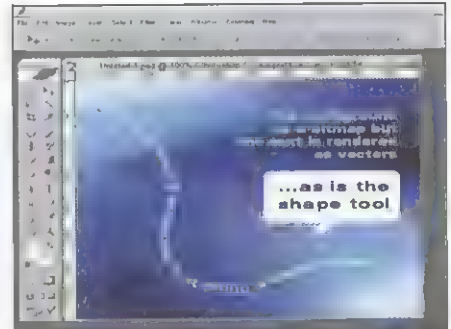


Vector graphics

Photoshop is primarily a bitmap environment, with artwork created by individual coloured pixels representing the image, while illustration packages like Adobe Illustrator work in a vector environment. Vector graphics are mathematically calculated through points and stroke and fill colour. The advantage is that elements can be scaled without any loss of quality, although this can result in a more illustrated finish.

Up until now we've been making selections around small areas where regular selection tools may suffice. However, for more precise selections around larger areas such techniques are not accurate enough, and mastering the Pen Tool and understanding the principles behind paths becomes essential.

We've pointed out the Pen Tool's key features below; the principle is simple, although a little practice will help. The Pen is used to create points from which Bezier points are used to manipulate the extent of the curve to



Despite Photoshop being primarily a bitmap platform, vector support is available through the Pen Tool, as well as with Text and Shapes

achieve precision. The generated path can be used as a selection or mask, or converted into a shape layer.

ACCESSING THE PEN AND PATH OPTIONS

As with other Photoshop tools, the Pen Tool has its own dedicated Options panel, which shares many features in common with the related Shape Tool.

The Pen Tool is grouped together in the toolbox along with related Vector options, including the Text and Shape tools and the dedicated Vector Selection options.

Expanding the tool offers a number of approaches for working with paths, including the regular Pen Tool. Master this and the other controls will begin to make sense.



The Paths palette is grouped with the Layers and Channels equivalents by default and provides a clearer approach to handling your paths.

You can convert and work with paths as regular vector shapes, bringing the potential of dedicated illustration tools directly into Photoshop's bitmap environment.

The shortcut icons at the foot of the Paths palette present some familiar icons along with more specific features – to convert a path into a selection for example.

Sculpting the body

If you can pinch more than an inch on your model you may need to lose a little flesh...

It might seem as if we're getting rather fussy, but there can be occasions when the body shape of even the most toned model is highlighted in a less than flattering way, due perhaps to the angle and lighting of the original shot. Rather than retake the shot we can easily make the necessary changes, thanks to the control allowed to us through paths and the Pen Tool.

By duplicating the offending regions and creating a path to follow the preferred contours on the model, a few methods become available to

counter the problem. Depending on the light source and composition of the image it may be possible to move the original contours inwards and make use of the Clone Stamp and Healing Brush tools to tidy up any loose ends and enhance the blend between the joined areas.

Alternatively, if more extreme results are required, then a mask could be used as a more accurate method of selection. This can also reduce the amount of retouching work needed, as the skin tones and highlights are recreated.



Think outside the box

Whatever method of selection you choose to adapt your image, don't forget the options made available through Edit > Transform. Quite often all that is necessary to blend or recreate an area is a simple adjustment to the new element's perspective.

THE QUICK METHOD

Save time when working on less prominent areas

With most photographs, the body area isn't going to be quite as closely scrutinised as the facial area, which the viewer will be naturally drawn to. If an area we need to work on is slightly out of focus or in shadow we could use similar methods to those we employed to adjust the nose in the previous chapter. By using either regular selection tools or more precise path methods, a selection can be made around the offending area and nudged into place. All that's necessary then is a little retouching around the joins and some satisfactory results are possible – but remember to carry out such work, as always, on duplicate layers.



Through the precision of paths we've re-shaped the model's forearm to lose some of the muscular definition

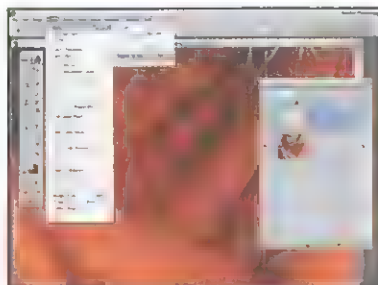
Smoothing out skin creases

Larger creases add tone and texture to an image that can detract from the subject

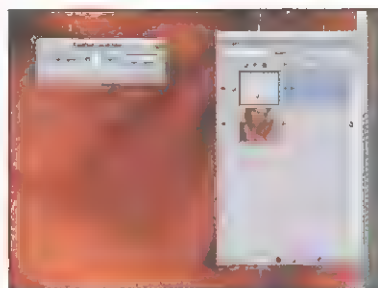


Skin.jpg

Use the skin.jpg file from the CD to continue with this walkthrough, as we attempt to minimise the natural skin creasing that occurs due to the model's pose.



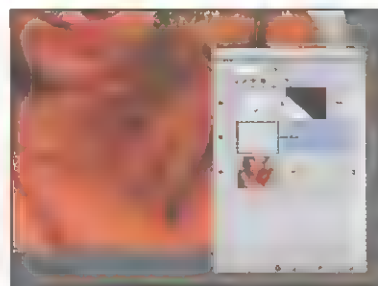
Open the skin.jpg file from the CD and take a moment to understand the way the arms are folded and how this affects the skin texture. The areas we're most concerned with are the two creases that occur below the collarbone. Fortunately there is a region immediately to the right of that which we can use, so make a broad selection around that and choose **Layer > New > Layer from Copy**.



Drag the layer over the offending area, reducing the **Opacity** temporarily to ensure accurate positioning. Then create another selection using the **Lasso Tool** within the patched area to trim away some of the excess flesh that covers good regions of the skin and set the **Select > Feather** option to around 10 pixels before inverting the selection and deleting the borders for a smoother join.



The blend between the original and replaced skin isn't too bad but it could be improved, so duplicate the new layer and set this to the **Screen** blending mode. This will brighten the top-most layer somewhat, but by balancing the opacity of both added layers you should be able to even out the creases, while retaining the original skin tones.



As a final touch we added a gradient to the layer with the **Screen** blending mode to further enhance the blend – we've also adjusted the **Opacity** of both layers so that some suggestion of the natural crease was apparent without it being totally flattened, as might have been the case if we'd chosen to make use of the **Healing Brush** or **Patch** tools.



Using restoration techniques

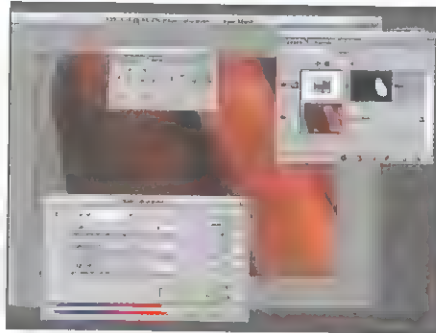
We've been lucky with this image in that there is a good area of skin that can be sampled. If this isn't the case then you may need to make use of some restoration techniques and borrow similar textures from another image. If the image is part of a sequence then finding a suitable sample shouldn't be a problem otherwise you're going to have to get a little creative.

Balancing body tones

When balancing skin tones on the body we must take into account the larger area involved

Another common problem when retouching the body is balancing out uneven lighting or tan marks. You could use similar methods to those we used for the face, but the greater surface area and variation makes this a less suitable process.

The procedure which we've started in this illustration is outlined below, and essentially involves balancing the colours with Hue/Saturation adjustment layers. Once you've found the most appropriate balance, you can work on the mask to reveal the adjustment over paler areas and



Making adjustments to the hue and saturation can help to balance tones within an image, to smooth out an uneven tan, for example

take care of the problem, balancing out the overall skin tones to a level that make things less obvious.



Info palette

Careful adjustment is necessary to achieve the most realistic results, and relying on the eye alone may not be the best approach. Make use of the Info palette to gauge more accurately the colour content of the tones you are trying to achieve and enter these directly into the HSL channels.

COLOUR MATCHING

THE FIRST step is to identify which skin tone area you plan to use as the base tone for your subject.

TRY TO find an area where a good and an unbalanced region are close together and make a rough selection around the latter, with both areas clearly visible.

CREATE A new Hue/Saturation adjustment layer with the selection active and make the necessary changes to the masked region using the good area as a reference point, taking more precise colour data by using the Info palette if necessary.

ONCE YOU'RE happy with the new balanced tones you can start to paint back the mask to reveal the HSL effect around similar poor areas to achieve the more balanced overall results.



Mask opacity

You'll find that some areas which may be affected by shadows may need more or less HSL adjustment, in which case you can always control the amount applied.

Using an intelligent approach, with varying degrees of grey applied to the mask, you'll be better able to control the range of the adjustment.

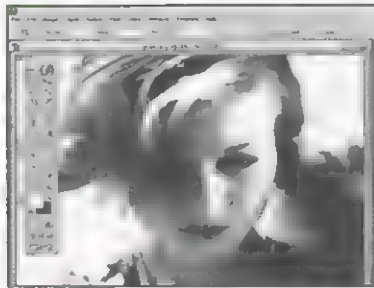
Changing hair colour

Create some dramatic results by changing hair colour using adjustment layers and masks



Grain.jpg

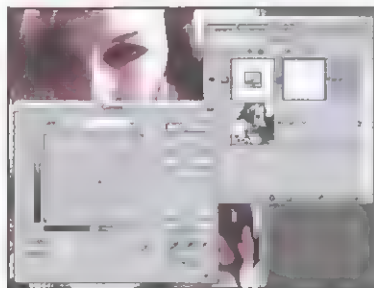
Use the *grain.jpg* file to continue with these steps. The same process can be applied to a colour image, but we've chosen a black and white one to illustrate one method of colouring an image as well as changing the hair colour.



Open the *grain.jpg* file from the CD for a grainy black and white image of a model who we've decided needs her hair colouring. We've already used a similar technique to this for adjusting the skin tones, but with hair we have the luxury of being able to change it to virtually any colour we choose, and therefore won't need to be quite so strict about our colour mixing.

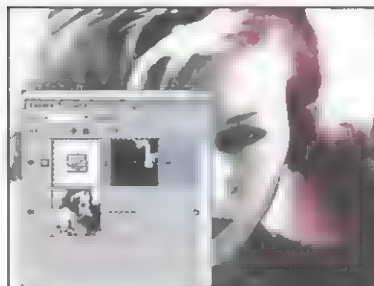


Create a new adjustment layer, choosing the Curves option, and play around with the individual colour channel until you reach a colour you prefer. Don't worry about the facial region, the clothing or the background for the moment as they won't be affected – just focus on the hair. Once you're happy click OK to exit the Curves dialogue and return to the canvas.

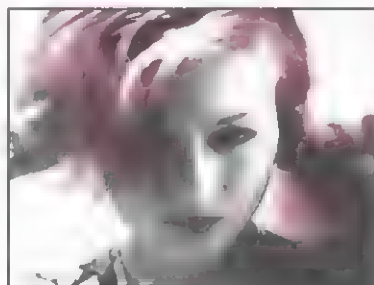


Screen bleaching

If your subject has darker hair tones you might want to duplicate the base layer and apply the Screen blending mode. This will wash things out somewhat, but adjusting the opacity or fill sliders can have some interesting side-effects, such as bleaching out the skin to calm down dodgy complexions, for example.



Next, select the adjustment layer's mask and fill this with black, and you'll notice your changes have been knocked out. Keep the mask selected and choose a suitable brush and, using a white foreground colour, paint over the hair region to expose the curves adjustment through the mask.



Take particular care when you come to points where hair meets the scalp or intersects with the background by zooming into the image and choosing more suitable, wet-edged brushes to create less abrupt edges. The final results should look natural on colour images, and provide an effective method of colouring greyscale images.

More uses for paths

Mastering paths and the Pen Tool will equip you with powerful and flexible new skills

We've illustrated a few uses for paths, and using them in conjunction with the Pen Tool is undoubtedly a skill worth mastering. It may take some getting used to, as the principles and techniques are quite different from the bitmap approach you may be familiar with, but working with paths is one of the skills that separates the novice Photoshopper from the professional.

Mastering paths opens up many new possibilities for retouching, and combining the technique with masks is just one example of how such

precision controls can improve your work. You may want to create a path around an entire model to transpose them to another setting; you could make use of regular painting tools to create the mask, although the smooth curves your subject may contain can be easily disturbed, especially if your work is being carried out with the mouse instead of a graphics tablet.

Using paths you can create a perfect outline which can then be transferred to the mask, after which you can touch up any details to facilitate the ultimate extraction.



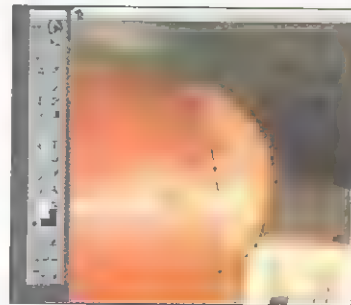
Bezier handles

A path is defined by points which determine the direction and curvature of the strokes on either side. Once a path is defined you'll be able to use the Direct Selection tool to adjust the handles that emerge, which are known as Bezier points and which control the curve in relation to the angle and distance over which you are dragging them.

MICRO PATHS

Use paths to add finer details, as well as for larger jobs

There's no reason why the use of paths should be restricted to large-scale operations. Their vector nature means you can zoom in to an image all the way to the maximum 1600%, and still retain the precision required to create new objects, such as the fingernail restoration illustrated here. Recreating such fine detail with regular bitmap methods can quickly become problematic as pixel-perfect precision becomes less reliable. Obviously, once converted into bitmap data, the results are prone to the same frailties as bitmaps, but by creating the original shape as a path the final render is much more likely to be as anticipated.



Zooming in allows tighter control over paths when rebuilding damaged detail such as chipped nail varnish

RETOUCHING FROM SCRATCH — A CASE STUDY

Now you've got a good idea of the techniques involved, we can make use of these skills as we walk through the process of cleaning up a typical studio shot to make it ready for print

We've covered a great deal of ground since the opening pages of this book, and by now you should feel much more confident about cleaning up your images and making the most of your digital snaps or photographic scans.

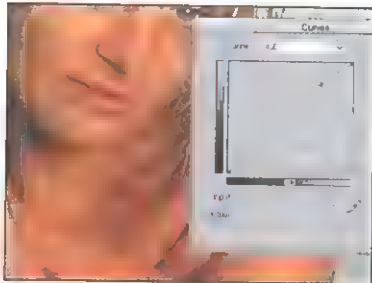
With such a wide-ranging subject it is impossible for one book to cover every eventuality you might face, as every picture will bring its own problems and challenges. You will, however, have a pretty good idea of how to best approach different scenarios and be able to tackle them with a more professional approach. In the light of this we'll complete things by taking an image

straight from the camera and looking at the various processes necessary to get the most out of it.

The image

Thanks go to Dutch photographer Maartje van Caspel for allowing us to use the image for these steps and include the original untouched image on the CD, so you can run through the steps or experiment with your own preferred methods.

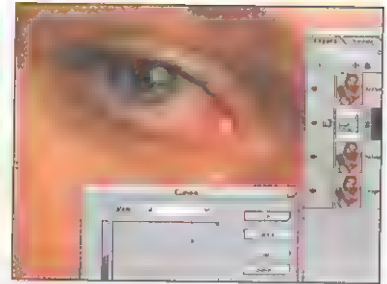
Maartje is a graphic designer by profession, although she has more recently returned to her old passion of photography to form her own company, van Caspel & Vdr. You can see her work by visiting her website



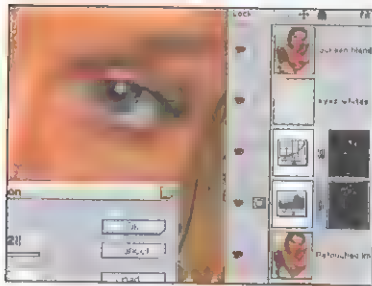
Page 115 Experiment with various methods of balancing light in the image



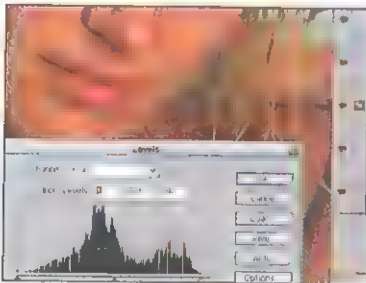
Page 116 Removing wrinkles and skin blemishes is one of the first jobs



Page 117 Getting rid of discolouration under the eyes makes a big difference



Page 118 Brighten the whites of the eyes and add some more colour



Page 119 Subtle enhancements to the mouth, nose and hair complete the facial



Page 120 Filters, blending modes and masks are used to perfect the final image

at www.vancaspelenvdr.nl/portfolio. The website showcases not only Maartje's exceptional talent for portrait photography but also her graphic design skills, being one of the most stylish and well-presented portfolio sites around.

The image we'll be working on is an honestly-shot picture of a woman without make-up, which gives us the challenge of tidying up some of the more important details while attempting to retain the cleanliness of the original composition. We could easily take things further and go in for some serious retouching, but careful consideration and empathy is required to make sure

your changes reflect the image's mood, while retaining a more natural finish that should be barely noticed.

A word of warning...

Once you see the finished results you'll be amazed at the difference a little subtle retouching can make and you'll undoubtedly be keen to apply such effects to your own images, but proceed with caution. Although the process can flatter a subject it can also leave a non-professional model feeling a little dejected about their actual appearance, so before you start touching up images of your other half, prepare yourself for them to not fully appreciate your new skills...

Getting started

Before we begin we need to understand our image and consider the best plan of action



Towel.tif

Take the original image which we'll use throughout this chapter from the CD. The subject and the pose present some food for thought as to how we might get the best from the image, while retaining the mood of the original photograph.



Open the towel.tif file from the CD and take a close look at the image. Pay careful attention to the facial region, as this is the natural focal point of any portrait, and make a mental note of any aspects you feel are in need of attention. The eyes should have the most impact, so bringing out the eye colour, enhancing the whites and reducing the creases in this area are important considerations.

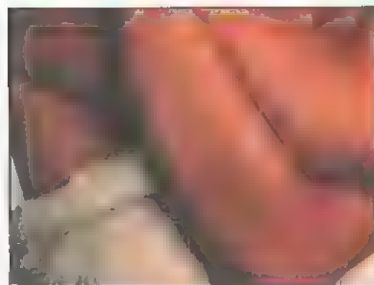


The complexion of the skin will need a little work as there is some variation in the skin tones and texture. You also need to decide how far you plan to take the removal of any wrinkles, as too perfect a finish could result in an unnatural appearance. Removing the marks on the forehead might be effective, but some experimentation may be necessary before we remove the smile lines, for example.



van Caspel & Vdr

The image was kindly provided by Dutch photographer Maartje van Caspel. You can find out more about her work at www.vancaspelvdr.nl/portfolio.



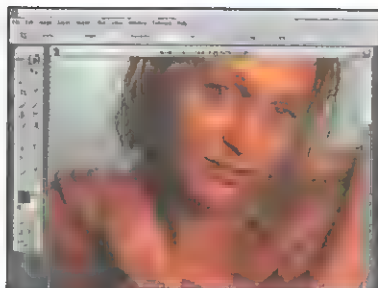
There is some slight blotchiness on the skin apparent on the body and a few moles around the arm area that are slightly distracting, but again you'll need to decide whether these should be removed entirely or just reduced for a more natural finish.



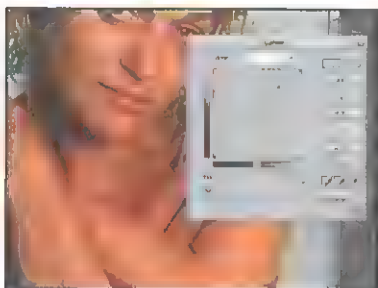
Before we jump straight in with the Healing Brush, let's take a look at the bigger picture and get some idea of the context of our shot. The general appearance is of a relaxed pose, with the model appearing to have just stepped out of the bath. Clearly, applying make-up would be inappropriate; we need to aim for a cleaner finish to the image and maybe warm the image a little.

Setting the balance

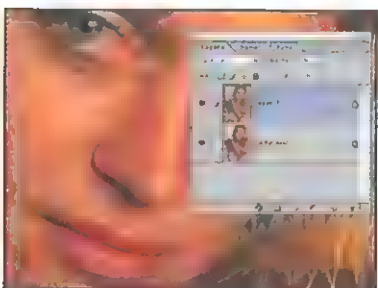
Before we start altering pixel content, we need to sort out the overall light and colour balance



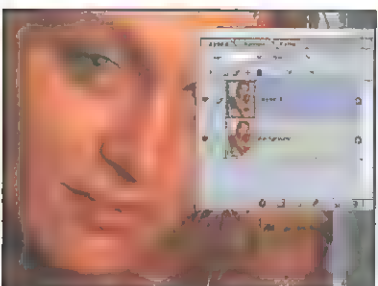
Take a close look at the original image and you'll notice some slight saturation of the skin tones in the form of a yellow/orange colour cast. Considering the composition, including the towel, background and hair colour, this isn't too distracting a feature and helps to warm the subject, although we need to decide whether it will remain, be adjusted or be enhanced to influence the final results.



You may feel that some tweaking of the Levels or Curves may be necessary to counter the effect. Raising the composite curves slightly will certainly brighten the image, as will adjusting the midtones levels, although you may feel the image is becoming a little washed out, with some of the finer detail being overwhelmed.



Another approach is to duplicate the base background layer and make some adjustments to the copy through Blending Modes to enhance the original image with its own data. This can have dramatic results, depending on the mode and the opacity at which it is applied. Here, for example, we've exaggerated the skin tones through the Hard Light blending mode set to 25% opacity.



However, we've opted instead for the Screen blending mode for our image, as the effect is more suitable. At an opacity setting of 15% it helps to brighten the image and lift some of the highlights, while having the additional benefit of calming some of the inconsistencies in the skin tones.



Full magnification

To get a more accurate impression of an image you'll need to be able to see things comfortably at 100% magnification. Professional retouchers will never work below these settings if possible, preferring to enlarge magnification. Although the size of the image and your screen size and resolution will ultimately be the deciding factors, try to keep this in mind before making any changes.



Essential equipment

A graphics tablet, such as one from the Wacom Intuos range, is essential to get the best control over any retouching work. And if your graphics card (and budget!) allow, you may want to consider running a dual monitor system so your main monitor contains the image without the screen furniture such as palettes, which can be dumped on to your second display.

Smoothing the skin

Removing the more obvious wrinkles and skin blemishes provides a good starting point



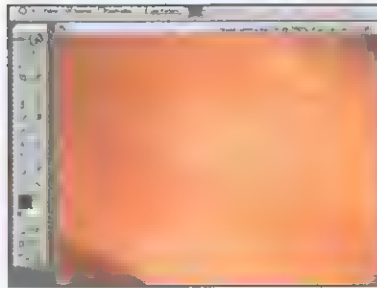
Work on a duplicate

As well as working on a copy of your original file, it's often a good idea to work on a duplicate layer while keeping the original hidden. Of course you can always reference the original file when working on a duplicate, but with the original image as a hidden layer you can instantly compare more specific points at the magnification you're working at without having to zoom and locate the equivalent area.

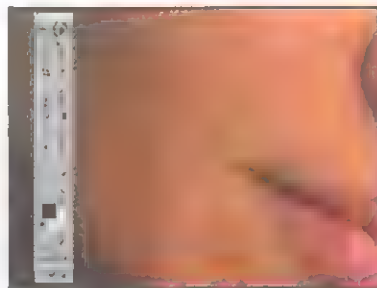


Contextual corrections

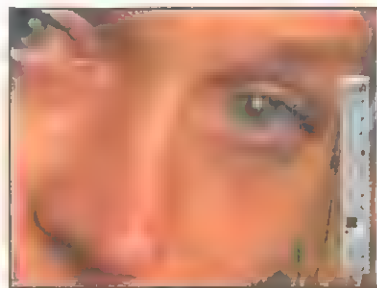
Making changes with the Healing Brush and Patch tools requires you to zoom right in to the image. But you'll need to keep an eye on how the image looks in context as you carry out your changes, so if your screen space allows you might want to consider opening a new view of your work via **Window > Documents > New Windows**.



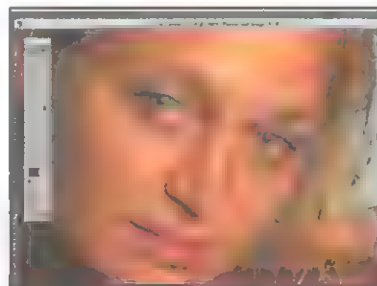
Zoom in to the face region to at least 100% magnification and make use of the Healing Brush to remove the more obvious blemishes and wrinkles, such as those around the mouth. For longer creases, such as on the forehead, make use of the Patch tool to clean things up with more consistent results.



There's a little patchiness in the skin around the mouth and cheek region which is also in need of some attention from the Healing Brush. Try the Patch tool if things don't balance out as well as you'd hoped with the Healing Brush. After some experimentation we have also decided to remove the smile line to the left of the mouth.



Try to smooth out some of the wrinkles and marks under the eyes as well. Don't worry too much about skin tone differences at this point, just focus on removing any defined edges created by wrinkles to smooth the complexion, as we'll be addressing the skin tones later on.



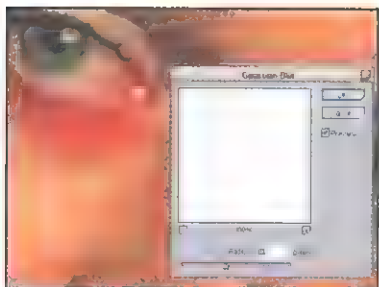
Even at this stage you'll notice that our model is looking quite different if you compare the results with the original. To complete the effect we've taken things further by using the Patch tool to smooth away some of the sharper lines that define the cheek and chin to create a smoother overall complexion.

Losing the shadows

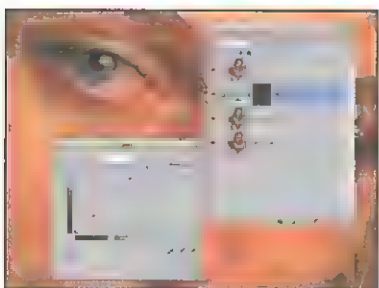
Having reduced the wrinkles under the eyes we now need to balance out the shadows



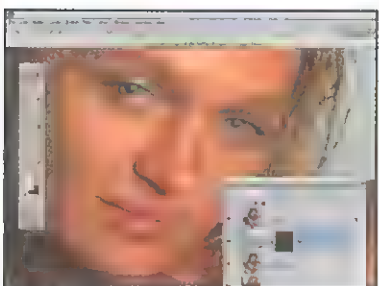
Returning to the eyes, we now need to balance the colour of the skin below the eyes and remove the bruised appearance. Select the Magic Wand tool and choose a low tolerance setting before making selections around the bottom of the eye. Hold the [Shift] key down to add to your selection until you've contained the worst of the problem area.



Move into Quick Mask mode by hitting the [Q] key and your selection is converted into a rather patchy-looking mask. Choose the Filter > Gaussian Blur option and set this to around a 10 pixel radius to smooth the selection and return to standard editing mode. You'll notice your original selection has been smoothed to contain the affected area in a similar effect to having feathered the original.



With the selection active we can add a Curves adjustment layer which will inherit the selection within its mask, making the correction of the imbalanced colour possible. Keep referring to the image at both actual size and in context of the full image as you try to match the skin tones suggested by the rest of the face.



With the effect applied to both eyes our model is starting to look much fresher. Although it may not always be possible due to the lighting and conditions of the original photograph, if you can apply the effect to both eyes simultaneously then you'll have a better chance of more consistent results.



Levels opacity

If the selection is quite small, the Gaussian Blur applied to the mask may make this too transparent for the eventual mask to have much effect. In this case, apply the Levels directly to the Quick Mask to increase the intensity before returning to Standard Mode.



The natural look

When balancing the detail under the eyes it can be all too easy to blend the colour to match the skin. This may be suitable for high-end fashion photography, where the 'perfect' look is sought after, but our model needs to retain some natural qualities, so you may want to use the Curves mask to reduce the appearance while leaving some subtle suggestion of the natural features and contours.

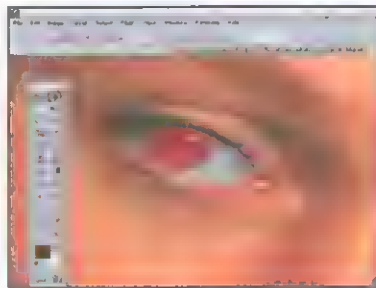
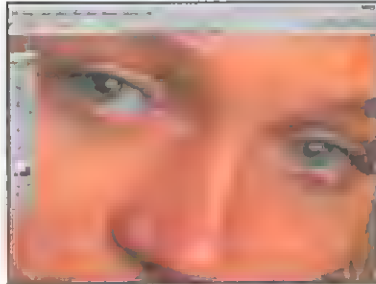
The eyes have it

Brighter whites and more intense colours will further draw the viewer into our picture...



Adjusting brush size

When painting over very small areas like the whites of the eyes, you'll need to make constant adjustment of your brush size to squeeze into the tightest corners. If you make use of the [] keys with the brush selected you'll find you can instantly change the brush size without having to go round the Houses and through the Options panels.



Zoom into the eye region once more and create a new layer above our main image. Set its blending mode to Color and choose the Brush tool, using a small tipped brush of around 13 pixels. With a bright white active as the foreground colour, paint over the whites of the eyes to brighten the area while retaining the subtle existing colour balances.

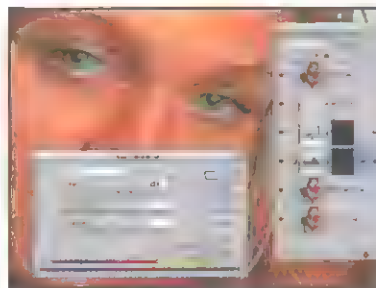


We might also bring some of the colour out of the pupils to help them become more vivid and capture the viewer more readily. Enter Quick Mask mode by hitting the [Q] key and zoom right in to each eye before painting over the pupils. For a more precise circular selection you might choose to use the Elliptical Marquee tool, dragging from the centre with the [Alt]+[Shift] keys held down.



Layer management

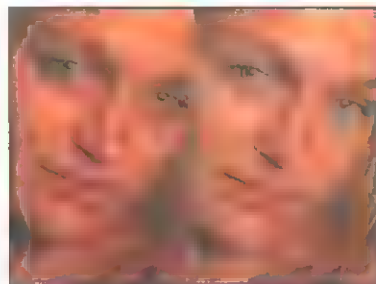
As we continue to develop new features into the image you are advised to organise your assets into layer sets. This way you'll be able to find relevant content easier as the number of layers necessary throughout our project grows.



Return to Standard Mode to see your selection active and choose the Select > Feather option to soften the edges by 2 pixels. You can now create another Adjustment layer that will inherit your active selection into the mask choosing the Hue and Saturation option. Then tick the Colorize option and make adjustments to the HSL levels to enhance the colour.

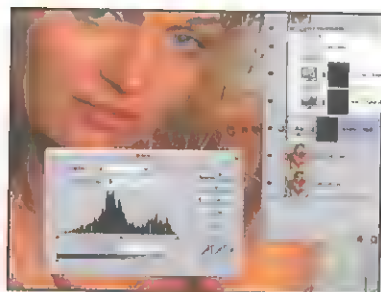


With the eyes now completed you can see that the results are quite dramatic when compared with the original untouched version. With brighter and more vivid eyes the image is much more engaging as the viewer is drawn immediately into its focal point. All that's necessary now is to consider the remaining facial features.

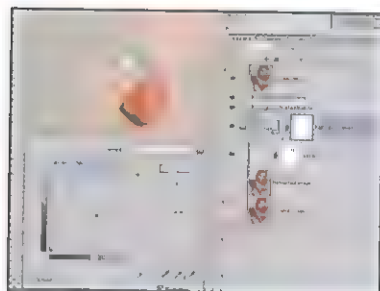


Completing the face

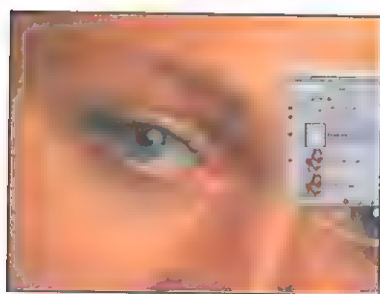
With the eyes complete, we can now turn our attention to the remaining facial features



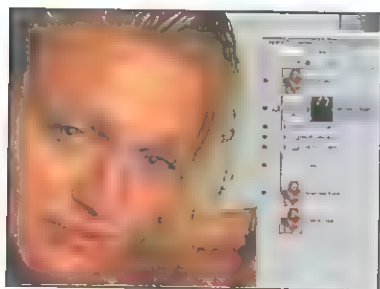
We've applied similar methods to those we employed to change the eye colour to increase the intensity of the lip colour. However, instead of colouring the area we chose to make some more subtle changes through a Levels adjustment layer to enhance the natural tones without making the subject look overly made-up.



All that was necessary around the nose area was to reduce the slight saturation that exaggerated the natural highlights, making the nose appear shinier. We could have 'Burned' the brighter pixels, but the nose would have appeared flatter. Instead we copied the nose into its own layer and feathered the edges through a mask before reducing the red channel with a Curves adjustment layer.



We also isolated the region around the eyebrows on its own layer so we could work on them without risking damaging the original content. By using the Clone Stamp and a soft-edged brush we were able to trim the region a little, drawing further attention to the eyes. Using a soft-edged brush for the task meant that the cloned areas blended more sympathetically with the image.



The hair was also brightened through a Curves adjustment layer and a mask. The Curve was raised to enhance the light balance across the entire image before its related mask was filled completely with black, cancelling out the effect. We were then able to bring back the effect to the hair by painting white on to the mask over the hair region.



Group layers

We're making increased use of adjustment layers as our project develops. As adjustment layers affect all the layers below them in the layer stack you need to be wary of any overlapping and creating unexpected results. If in doubt, create a new layer from a selection around an area that is being adjusted and group a layer directly to that, and the adjustment layer will be restricted to just that layer.



Fine masks

You'll need to take care when painting out masks over finer detail, like when we enhanced the colour of the hair. Making use of a soft-edged brush will smooth the mask toward the edges of the selection and make the effect less obvious in areas where odd hairs may stray on to the background or over the shoulders.

Balancing the skin

The final stage is to take care of the skin tones and balance out the textures



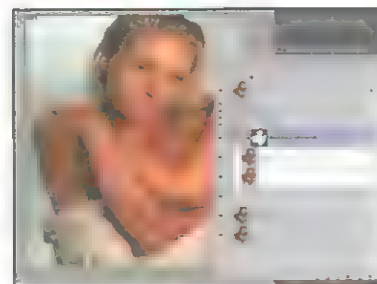
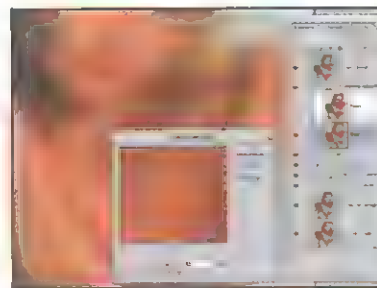
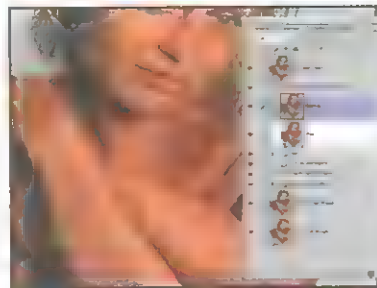
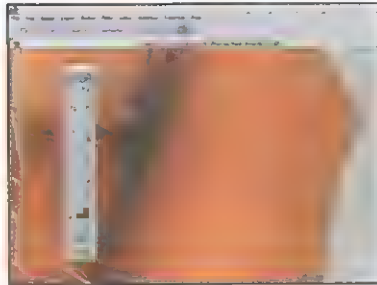
Final.psd

The images displayed here barely do justice to the actual image when seen at full size. Take the final.psd from the CD, which will allow you not only to see the image in all its retouched glory, but also give you access to the layers and their organisation, following the steps involved in this chapter.



Stacking order

Once you've completed your adjustments you may need to check the way your layers are stacked to ensure all the elements are being displayed. Unless you keep a careful eye on how your layers are relating to each other, it can become all too easy to lose an effect if it becomes hidden, behind another layer for example.



Before we move on to balancing the skin tones, we'll need to address some of the markings that are apparent on the body. Some deft use of the Healing Brush and Patch tools will take care of the moles on the skin. You'll also need to clean up the blotches under the model's right arm and the scar around the right wrist.

Once you're happy all your changes have been made, create a new layer set at the top of your layer stack but below the top-most layer, which should be your duplicate image defining the Screen blending mode. Copy two duplicate layers of your main retouched image layer into this and name the top one Noise and the second Blur.

Apply the Noise > Add Noise filter to the relevant layer with a setting of 5%, using Gaussian distribution and checking the Monochromatic box, and hide the layer temporarily. Then, to the Blur layer, apply the Dust & Scratches filter with a radius of 20 and a Threshold of 8 before running the Gaussian Blur at a radius of 30. Finally, display the Noise layer but reduce the Opacity to around 60%.

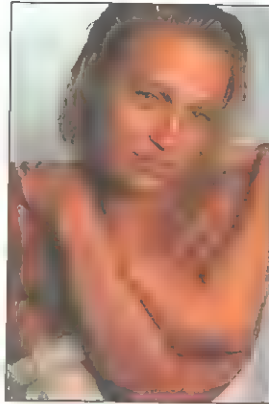
Drag the layer set above the base image in the stacking order and apply a mask to the layer set containing the skin balance adjustments. You can now paint with black over areas of the image where you want to retain the clarity of the image, leaving the skin affected by the filtered layers.

The final result

With all the retouching work complete we can compare our finished image to the original

The images reproduced here cannot do justice to the full results of our work – you'll need to check out the final.psd file on the CD to see those for yourself. Of course, you may come up with some very different results to ours, but this is one of the joys of retouching.

Our project aimed to keep the image clean and natural, while also creating an image that could be used for a magazine cover shot. If you have a personal involvement with a subject you may have different ideas on which methods will best suit the



The original image is a beautifully-lit shot capturing an enigmatic pose. Maartje took the shot with a Minolta DiIMAGE 7Hi.



Computer Arts

Don't forget that our sister magazine, Computer Arts regularly features creative Photoshop tutorials written by some of the industry's leading lights. It's on sale monthly, check out the web site for more information. www.computerarts.co.uk

outcome, but there's no denying that in this case our results have been pretty impressive.

THE RETOUCHEE IMAGE

Brightening the eyes, adding intensity to the colour and cleaning up the surrounding skin were key improvements to the focal point of the image.

One of the first tasks carried out was to remove the wrinkles and skin blemishes that are natural, but unwanted features for a cover shot.

The remaining facial features needed careful consideration to bring out existing qualities without making the end result appear unnatural.



The layer stack makes plenty of use of adjustment layers and layer masks. This way processes can be further adjusted to empathise with ongoing work.

Due to the number of layers, adjustment layers and masks used, we've grouped logical amendments within layer sets to keep things manageable.

Skin tones were balanced and textures calmed through a combination of filters, while masks allowed more detailed regions to stand out and give the image impact.

On your CD-ROM

Here's how to get the most from the disc that accompanies your Focus Guide

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To access the resources and files on this disc, including the superb video tutorials and 100 stock images, first insert the CD into your drive. Whether you're using a Mac or a Windows PC, the disc will work equally well. If the disc interface doesn't run automatically, look at the opposite page to find out how to start your installation manually.

Before you go on

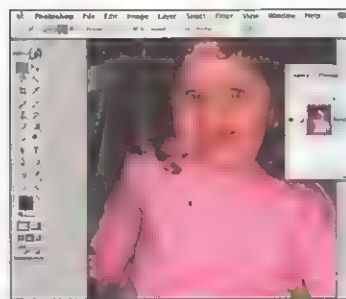
The first item that should appear on your screen is the disclaimer window; here you'll need to click

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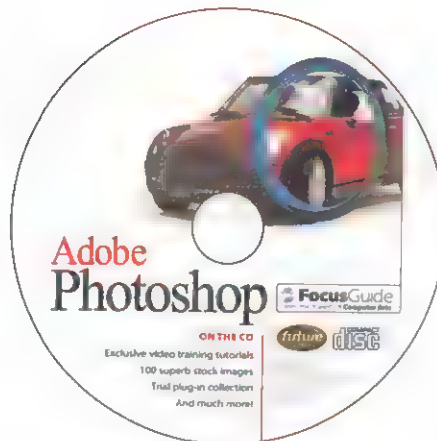
Learn restoration and retouching techniques the easy way

To complement the printed tutorials in this issue, our resident Photoshop expert George Cairns has supplied another batch of his ever-popular video tutorials. In the movies Restore 01 to 04 George demonstrates how to repair a seriously damaged vintage photograph using the Healing Brush and the Clone Stamp Tool. In Retouch 01 we remove red-eye and clean up a shirt, while in Retouch 02 we add a ProMist effect to a portrait. There are a total of six movies lasting over half an hour. To view the tutorials you'll need the QuickTime Player. You can download the latest version for free from the Apple web site (see below).



Photoshop expert George Cairns guides you through the process of enhancing and restoring photos.

www.apple.com/quicktime/download



before attempting to install any software on a networked PC.

Installation

Once inside you'll see a range of options in the menu bar along the top of your screen. Click on the relevant link to access the section that you require. Some files cannot be accessed via the interface. Instead you'll need to open them via My Computer (PC) or by clicking the disc icon (Mac). Note that our own video tutorials require QuickTime Player, while the video from PSXtras

requires Windows Media Player. If you have a query about your disc, email our support team (support@futurenet.co.uk) for help. If you want to talk to a member of the team, call 01225 822743. Note that we can only provide basic advice on using the interface and installing software. We cannot give in-depth help on specific programs, or on your particular system configuration.



Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGi.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up.
Mac users: Double-click the disc icon, then double-click PFGiClassic or PFGiOSX, depending on which OS you're using.

PHOTOGRAPH ENHANCEMENT TOOLKIT

A great range of extra resources for your Photoshop projects

To help you with your image-correction projects we've put together a great toolkit of extra resources. First up this month is a long list of demonstration versions of various plug-ins. These will enable you to fix aspects of your digital images, then mess them up again by adding grain and scratches, for example, to prematurely age your photos. The plug-in demos come from top plug-in manufacturers Alien Skin, Digital Film Tools and VanDerLee. To help you on your way, we've also included an extra video tutorial from PSXtras and some additional PDF tutorials from wz2k. With these extra resources in your armoury, your images are sure to be even more impressive!



OldMovie from VanDerLee is just one of the many plug-in demos included in our photo enhancement toolkit.

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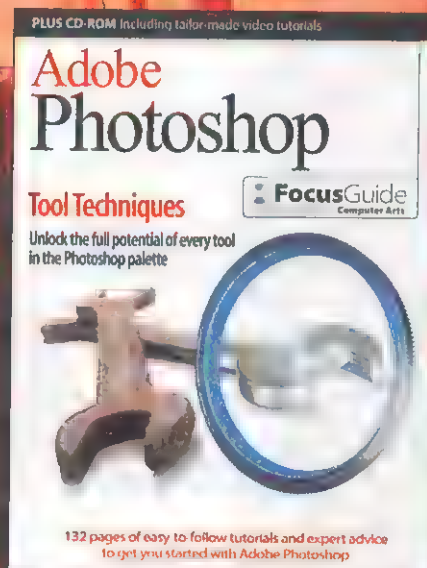
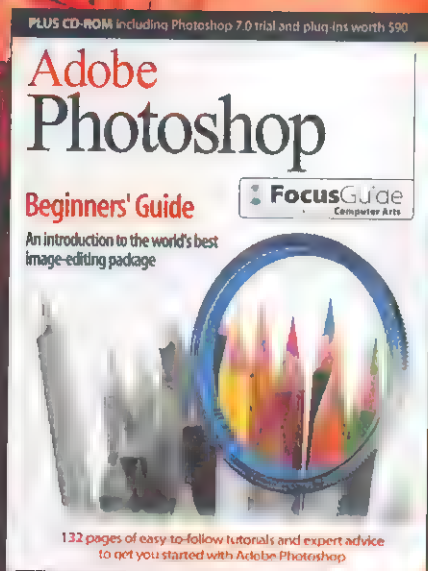
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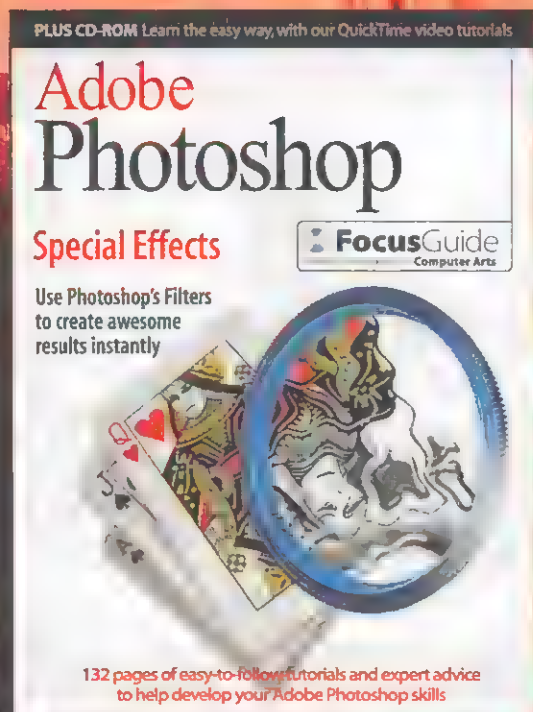
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ISSUE 7 ON SALE 12 FEBRUARY

Glossary

Confused by Photoshop-speak? Here's our handy guide to essential terms found in this Focus Guide

Alpha channel

Alpha channels are stored alongside colour channels (see below) in the Channels palette. They store greyscale information that enables you select (or mask out) areas of your image very accurately.

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Brush

Brushes enable you to paint on Photoshop images with colour, other bits of images and pre-defined patterns. They mimic real brushes in that you can alter the size, hardness and texture in order to achieve the effects you want.

Colour channel

There are three colour channels in all colour images: red, green and blue. Each one contains information specific to that colour. Photoshop enables you to alter each channel independently, making it possible to reduce grainy blue skies without affecting the rest of an image, for example.

Feathering

Softening the edges of pixels in a selection, so that they will blend smoothly when moved elsewhere. Photoshop does this by only partially selecting some of the pixels around the edge of the selection.

Filter

One of Photoshop's preset tools that applies an effect to an image (or a selection within

the image). Examples include sharpening, blurring, creative and artistic filters. You'll find a complete list by clicking in the Filter menu at the top of the Photoshop window.

GIF (or .gif)

A type of image file format best suited for producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Almost all digital camera files, for instance, will be in colour. But you can turn them into black and white with many fine gradations of grey, from within Photoshop by turning them into greyscale images.

Image size

This refers to the physical size of an image. For instance, a photograph you are working on may be 20x15cm. This matters most when you come to printing out the image.

JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file sizes and good quality photo reproduction. It is commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layer

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath

them, in the same way that a blurry piece of glass placed over a photograph does not actually affect the photograph – in both cases, it is the appearance that is changed, leaving the original untouched.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Navigator

In Photoshop's default screen layout, the Navigator is positioned in the top-right corner and gives you access to the whole image, even if you are currently zoomed in to a specific part. The red box within the Navigator image denotes the area that is currently on screen; you can move around your image by clicking and dragging the red box around the Navigator image.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images.

Selection

Any part of an image which you select with Photoshop's tools, shown by a marquee around it. You can then work on certain parts of an image, or remove them without affecting the rest.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find them in folders of images and in Photoshop's File Browser. Because they're smaller than a full size image you can browse

through them more quickly, which makes finding the file you're after far easier.

Pixel

An abbreviation for 'picture element', it is essentially a tiny dot of colour on screen. Most images are made of up millions of pixels, which combine to make an image look seamless. Zoom in very close on an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you have made to remain editable when you next open it.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears at the top of the Photoshop window, giving you access to various options, including such things as Anti-aliasing and Feathering.

Transformation

A transformation is a Photoshop function that manipulates the shape, size and proportions of an object or image.

Vector

A 'vector' is a type of graphical element. In Photoshop graphics are usually 'pixel-based', which means they are difficult to manipulate without affecting their image quality. The advantage of vectors is that they are 'resolution independent', so can be scaled up and down, and resized without loss of quality.

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Index

Turn straight to the information you need
with the help of our comprehensive index

A

Actions 65, 74
Adjustment layers ... 13, 34, 98, 117, 118, 119
Adjustment tools 12
Adobe Gamma 32
Airbrush 19

B

Backgrounds 78, 79, 91
Black and White conversion ... 58, 59, 72, 87
Blending modes 25, 34, 98, 115
Blur filter 60
Blur tool 18, 60
Brightness and Contrast 28
Brushes 19
Burn tool 17, 39, 89

C

Calculations 59, 72
Calibration, colour 32
Calibration, monitor 33

Channels 58, 73, 81, 87
Channel Mixer 73
Clone Stamp tool 14, 53, 69, 70, 71
CMYK see Colour Modes
Colorize 118
Colour Balance 26, 46, 81, 96
Colour cast 44
Colour correction 40
Colour modes 42
Contrast 28
Curves 24, 34, 46, 49, 115

D

Despeckle, Noise 29
Dodge tool 17, 39, 89
Dust and Scratches filter 52, 91, 100

E

Eyedropper 22
Exposure 34, 35, 36

F

Filters 38
Focus 62, 63
Frame 64

G

Gaussian Blur 60, 90, 100
Graphics tablet 15, 99
Gradient 63
Greyscale 82

H

Hair colour 110
Healing Brush ... 15, 16, 53, 70, 71, 88, 97, 116
Histogram 23
Hue and Saturation 27, 74

I

ICC profile 33, 43
Image > Adjustments 12
Info palette 44, 93

L

Layers 25, 99
 Levels 22, 23, 49, 93, 115
 Lighting Effects 38
 Liquify 102

M

Magic Wand tool 117
 Make-up 101
 Masks 63, 79, 82, 83, 90, 92
 Measure tool 68
 Motion Blur 60
 Mould removal 53

N

Noise filter 100, 120

O

Overexposure see Exposure

P

Patch tool 16, 97
 Paths 106, 111

Pattern Stamp tool 14
 Pen tool 106

Q

Quick Mask 81, 117

R

Recreation, image 80
 Replace Colour 48
 RGB see Colour Modes

S

Saturation 27, 41
 Scratch removal 69
 Selective colour 47
 Sepia 65, 74
 Sharpen filters 61
 Sharpen tool 18, 61
 Skin 100, 109, 116, 120
 Smudge tool 18
 Sponge tool 17

T

Textures 50, 54, 55
 Threshold 83

U

Under exposure see Exposure

V

Variations 45, 75
 Vignette 64

W

Wrinkle removal 97, 108

Z

Zoom tool 88

Adobe Photoshop



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